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ABSTRACT OF DISSERTATION

E. Patrick Leddin

The Graduate School
University of Kentucky
2009

CONTENT RELEVANCE CENTRIC THEORY: AN INVESTIGATION OF
CONTENT RELEVANCE'S ABILITY TO PREDICT LEARNING OUTCOMES IN A
TRAINING ENVIRONMENT

ABSTRACT OF DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Communication and Information Studies
at the University of Kentucky

By
E. Patrick Leddin

Lexington, Kentucky

Director: Dr. Derek Lane, Associate Professor of Communication

Lexington, Kentucky

2009

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CONTENT RELEVANCE CENTRIC THEORY: AN INVESTIGATION OF CONTENT RELEVANCE'S ABILITY TO PREDICT LEARNING OUTCOMES IN A TRAINING ENVIRONMENT

After three decades of research, instructional communication scholars find themselves facing several key challenges. These range from an overemphasis in past studies on variable-analytic, atheoretical research to a lack of connection to learning outcomes. Many in the field contend that the time has come for instructional communication researchers to define instructional communication theories, test hypotheses, tie research efforts to learning outcomes, and clarify key terms. The present study addressed these shortcomings by proposing the Content Relevance Centric Theory and testing related hypotheses.

The research occurred in a professional training environment and involved the use of a modified content relevance instrument that assessed both teacher communication characteristics and message content relevance. The study gathered data from 247 trainees. Results indicate the importance of the construct as a predictor of trainee behavioral intentions both directly and when mediated by both trainee state motivation and trainer credibility. Study outcomes also question the role of trainee engagement in learning and the connection between behavioral intentions and learning application.

KEYWORDS: Instructional Communication, Content Relevance, Learning Outcomes, Trainee State Motivation, Corporate Training

E. Patrick Leddin

December 1, 2009

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Dedicated to my wife, Jamie, who encourages me to see the potential within myself and my children, Alex and Clay, for whom I hope to achieve that potential.

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The dissertation journey has been both challenging and rewarding. Numerous people have helped me throughout the process. My wife, Jamie, and children, Alex and Clay, allowed me to uproot the family and move to Kentucky to complete this degree. Their commitment has been unwavering even when at times I felt lost in the process. I extend a heartfelt thanks to Dr. Derek Lane, my dissertation chair. His patience, guidance, and commitment have been more than I could have possibly imagined. He is a true professional in every sense of the word. Dr. Nancy Harrington, Dr. Michael Arrington, and Dr. Gary Anglin served on my dissertation committee. I appreciate the energy they brought to my studies and the passion they shared for learning. I thank my parents, in-laws, siblings, and friends who were always available with a word of encouragement at just the right time. A special thanks to my friend and former classmate, Dr. Sarah Kerckmar. She may have thought that her role in my education ended when she graduated the program, but thanks to email, I have bothered her from a distance the last two years. Lastly, I thank my colleagues and clients for their tremendous flexibility and support. Without their commitment to helping me achieve this goal, it never would have happened. As I turn the page on this chapter of my life, I am confident that the next chapter will be equally exciting thanks to the wonderful people who surround me.

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Chapter 1: Introduction, Rationale, and Literature Review

United States academic institutions spend billions of dollars annually to educate and train students. Lucas (1998) addresses the explosive growth of American higher education with particular emphasis on cost increases in the last fifty years. “The total amount of monies currently expended on behalf of higher learning...(exceed) an estimated \$150 to \$175 billion” (p. 37). The growth identified by Lucas continues today as enrollment in United States institutions of higher learning has grown from 14.5 million in 1998 to 17.5 million in 2005 and is projected to be at 18.5 million by the fall of 2009 (Digest of Education Statistics, 2007). Enrollment has grown and so has the total cost of higher education. Lewin (2008) determined that college tuition and fees increased 439 percent from 1982 to 2007. During this same period, median family income failed to keep pace with the cost of higher education, increasing at a much smaller cumulative rate of 147 percent.

Growth is not limited to academic institutions. Businesses, both public and private, also make sizeable financial investments each year in training and developing their employees. Beebe, Mottet, and Roach (2004) state that “training in the United States is big business. It’s been estimated that over \$200 billion is spent annually on organizational training” (p. 5). Much like the trajectory of higher education expenses, this estimate also continues to grow. Bersin and Associates (2008) contend that over \$250 billion was spent on corporate workforce training with 21 percent of training dollars invested in leadership development and management supervisory training. In the present study, the researcher worked with a large training and development company that services a wide range of clients both in the United States and globally. The company generates over \$280 million in annual revenue teaching business leaders and employees to more effectively use their time and resources as they work to accomplish their top priorities.

It is almost unimaginable that, despite the size of these training and education expenditures, companies and institutions of higher learning struggle to determine if the financial investment and time expended achieve desired learning outcomes. The challenge of making these connections is a difficult one as many variables play a potential role in influencing learning. It is compounded by the reality that many of these

professionals face a time of decreasing resources. Nonetheless, they must work to clearly articulate connections among financial investments, student and trainee feedback, and desired learning outcomes.

Over the past several decades, the call for accountability has grown increasingly stronger. Educational providers are both recognizing and attempting to answer Return on Investment (ROI) oriented questions. The same appears true for training professionals.

From a historical perspective, the struggle to connect financial investments to effective teaching and ultimately participant is not a completely new challenge. Although the call for accountability appears to be growing in intensity, researchers and practitioners have been studying the issue for many years as they work to improve instruction and learning outcomes.

Over half a century ago, Guba and Getzels (1955) commented on efforts to define effective teachers stating that, “despite a large number of investigations, relatively little more is known now than was known in 1900” (p. 330). Nearly two decades later, Brophy and Good (1974) echoed Guba and Getzels’ teacher effectiveness concerns. “Despite years of educational research, relatively little is known about the characteristics of effective teachers or the behavior involved in effective teaching” (p. 4). The desire to make the connections continues today. Recently, the University of California, Berkley published an independent study stressing the ROI for individual students and entire communities when funds are invested in higher education (Brady, Hout, & Stiles, 2005).

The challenges of accountability in corporate training and development have followed a similar pattern. Phillips (1997) has spent the last 30 years working throughout the corporate training and development industry to create and implement a process to measure ROI in training and performance improvement initiatives. According to Phillips, measuring learning outcomes and their subsequent effect on business performance is a necessity. “Competitive and economic pressures are causing intense scrutiny of all expenditures, including all training and development costs” (p. 17). Over the past 10 years, the demand for ROI informed training decisions has increased greatly among learning executives. “If organizations want to show this level of accountability, they are doing it already. ROI has become a routine activity in the workplace” (Phillips, 2007, p. 1). The interest in studying ROI has grown to such a level that training and

development professionals now have the opportunity to learn how to conduct such studies in their own organizations via professional certification programs. For example, the American Society of Training and Development (ASTD) offers an ROI certification program designed to teach participants to “develop the skills needed to create and deliver effective ROI evaluations for learning and performance, organizational development, human resources, technology, change, and quality solutions” (ASTD ROI Certification, 2009).

The present study focuses on responding to the macro-level call for accountability by conducting instructional communication research in a professional training environment. The research assesses how corporate training programs influence an employee’s ability to positively impact the organization through application of what was learned in a training workshop. With this in mind, this dissertation quickly transitions from the ROI concerns addressed above to four specific challenges evident in instructional communication research. Each individual challenge connects to the broader ROI issue. This study confronts these four challenges, addresses gaps in the current literature, and provides evidence for the proposed Content Relevance Centric Theory’s ability to predict learning outcomes in a professional training context.

Challenges and Rationale for the Study

Despite three decades of research, instructional communication scholars find themselves continuing to face several key challenges beyond the broad ROI concern discussed in the previous section. An assessment of instructional communication shortcomings could yield a long list of items that need attention. However, because the purpose of this paper is to present a specific research project and not create an exhaustive list of deficiencies, thus the researcher focused attention on concerns that met two criteria. First, the author must consider the concern critical to advancing instructional communication research. Second, the concern must be discussed often in the body of instructional communication literature. Using these criteria as a filter for the study, four primary instructional communication concerns emerged. First, most instructional communication studies are variable-analytic and atheoretical. Second, instructional communication researchers have narrowed much of their efforts, failed to address the wide range of learning contexts, and elected to conduct few longitudinal studies. Third,

instructional communication studies have not tied constructs to learning outcomes. Lastly, opportunities exist to improve the naming of key instructional communication terms, which will improve clarity among researchers and practitioners. The following provides further explanation of the challenges and discusses how this study worked to mitigate each of them.

Challenge One: Overemphasis on Variable-Analytic and Atheoretical Research

In general, instructional communication research efforts have been variable-analytic and atheoretical. Mottet and Beebe (2006) contend that instructional communication research “examines teaching and learning using communication theory and research conclusions to explain, predict, and control instructional outcomes” (p. 4). Notwithstanding this claim, the author, and a preponderance of the instructional communication and education literature, argues that this is not often the norm. A comparison of two comprehensive studies of instructional communication research supports the position that the goal stated by Mottet and Beebe has yet to be achieved. What follows is a brief description of the two comprehensive studies, along with a combined explanation of the researchers’ work. Each study reviews instructional communication and education literature. Together, they depict instructional communications scholarly work over a 20-year period and illuminate the variable-analytic and atheoretical challenge of instructional communication research.

In the first analysis, Staton-Spicer and Wulff (1984) reviewed 186 journal articles focused on communication education research published from 1974 to 1982. They organized each article into one of six categories. These are teacher characteristics, student characteristics, teacher strategies, speech criticism and student evaluations, speech content, and speech communication programs. In the second study, Waldeck, Kearney, and Plax (2001) analyzed instructional communication research published in the 1990s and categorized instructional communication research into classroom management, teacher-student interaction, pedagogical methods and technology use, student communication variables, teacher communication variables, and the impact of mass media on children. Of the six identified categories, the largest was student communication variables and included items such as culture, gender, communication apprehension, motivation or demotivation, and communication competencies. The

second largest area was teacher variables such as immediacy related behaviors, credibility, and teacher effectiveness.

Comparing Staton-Spicer and Wulff's (1984) efforts to those of Waldeck, Kearney, and Plax (2001) reveals that the instructional communication discipline is evolving; however, there remains too much of a focus on variable-analytic, atheoretical research efforts. The review of instructional communication research from the mid-1970s to the early 1980s reveals a progression from mere documentation of teacher and student communication characteristics to focused efforts on specific questions regarding credibility, homophily and communicator style. However, Staton-Spicer and Wulff explain that the plethora of empirical research generated during the period of their analysis resulted in, "too many isolated studies that cannot be placed into a coherent framework...what we need are integrated studies that generate propositions from which we can build theory" (p. 384). On a positive note, Waldeck et al. noted an increase in the number of theories employed by researchers in more recent studies. These theories, as determined by the authors, include Attention, Relevance, Confidence, and Satisfaction (ARCS), bases of power, attribution theory, and approach / avoidance. Although drawing from other communication theories, Waldeck et al. explain that the instructional communication researcher's "pre-occupation with variable-analytic research further perpetuates the notion that instructional communication is atheoretical" (p. 225).

In a more recent analysis of the state of instructional communication research, Nussbaum and Friedrich (2005) reflected on the history of the discipline. Their analysis acknowledges the efforts of Staton-Spicer and Wulff (1984) and Waldeck, Kearney, and Plax (2001) and provides recommendations for future research. They too found that instructional communication scholars continue to make progress, having built on the work reported in the previous analyses to develop more rigorous programs of research in areas such as power in the classroom, student and teacher socialization, and teacher and student feedback. These advancements notwithstanding, Nussbaum and Friedrich continue to challenge instructional communication researchers to move beyond variable-analytic, atheoretical research efforts. "There is always room for improvement, though, and improvement can result, we suggest, from an increased focus on theory construction and testing" (p. 583). Lane (2006) explains that this concern is echoed by others who are

critical of instructional communication research's overemphasis on atheoretical studies. According to Lane, "critics have expressed concerns about a lack of strong theoretical underpinnings and an atheoretical focus in too many communication studies" (p. 12).

To truly achieve Mottet and Beebe's definition of what instructional communication researchers do, efforts need to move beyond variable-analytic, atheoretical studies and focus on theory building and hypothesis testing. The current study attends to this concern by proposing an instructional communication theory that posits the ability of content relevance to predict trainee behaviors and then tests hypotheses associated with the proposed theory.

Challenge Two: Too Narrow of a Focus

Sprague (2002) provides one of the loudest voices on the narrowness of instructional communication research. Presenting her position from the critical perspective she contends that a cursory review of instructional communication research to date quickly informs one that much of the work has been conducted in the university setting involving undergraduate students. Sprague answers this concern with her three-dimensional cube for organizing the context of research in communication education and instructional communication. The cube allows researchers to identify what has and has not been explored. One dimension asks, "What is taught?" The second asks, "Who is the teacher?" The third asks, "Who is the learner?" Sprague's contention is that a researcher can work to *fill-in-the-blanks* by identifying and studying an area that has not been fully explored. The present study addresses Sprague's concerns by filling in some overlooked blanks. The study departs from areas commonly receiving attention (e.g., undergraduate students in a university setting) to a scenario where a training program is delivered by a professional trainer to corporate clients. In the current study, the researcher worked with a large training company to test hypotheses related to the proposed instructional communication theory. The approach provided a high degree of ecological validity, as it studied trainees in an actual professional training context.

On a related theme, Nussbaum and Friedrich (2005) speak to the narrowness of instructional communication research and provide recommendations for future research. Of interest to the current study are the two main suggestions for future research agendas. The first major recommendation is to ensure that researchers focus on all life stages. The

second is to conduct more longitudinal studies. Although this study was not designed to address these issues directly, it did address some of the concerns highlighted by Nussbaum and Friedrich. First, many of the study's subjects were between the ages of 45 and 60. Nearly 25 percent of respondents were between the ages of 42-50, while slightly more than 18 percent of respondents were over the age of 50. Thus, approximately 42 percent of study participants represent an age group that Nussbaum and Friedrich point to as understudied in the literature. Second, although not focused on communication across the life span, the present study involves participants both in the classroom and 21 days following training, as it explores how trainees apply what they learn after they leave the training environment. This longitudinal approach certainly aligns with Nussbaum and Friedrich's recommendation to capture change over time.

Challenge Three: Few Studies Tie Research to Learning Outcomes

As previously discussed, in spite of the sizeable financial investment in training and education, academic institutions and other organizations struggle with connecting financial investments to learning outcomes. In reflecting on her role as editor of *Communication Education*, coupled with a 30 year review of the journal, Clark (2002) discussed where to go next in instructional communication, explaining that instructional communication researchers must tie their research to learning outcomes. Clark articulates three primary reasons supporting her argument. First, she argues that National Communication Association (NCA) members are interested in understanding more about the impetus for successful learning outcomes. Second, she points to growing pressure for accountability. Clark explains that increased competition for limited funds requires researchers to emphasize assessments on learning outcomes that yield useful results. Third, by focusing on learning outcomes, Clark contends that researchers will contribute greatly to the overall goal of improving instructional quality.

Learning outcomes are often explained using three definitions. The first, affective learning, addresses a "student's attitudes, beliefs, and feelings about what they learn" (Mottet, Richmond, & McCroskey, 2006, p8). The second, cognitive learning, was defined by Bloom (1956) as the acquisition of knowledge and the ability to understand and use knowledge. The third, behavioral learning, also referred to as psychomotor learning, involves physical action and the development of physical skills (Bloom, 1956).

A review of instructional communication research shows that a large number of studies address affective learning, using instructor evaluation sheets to operationalize the concept. A number of studies address cognitive learning, where researchers struggle to determine the best mechanism for assessment. Some assessment methods employed in past studies include grades, results on instructor developed tests, and self-evaluations. The latter, self-evaluations, is endorsed by Richmond, Lane and McCroskey (2006). Ultimately, few studies address behavioral learning. A range of issues plays into the lack of behavioral learning studies, not the least of which is the challenge associated with conducting longitudinal research to see if learners truly develop and implement the skills taught in the classroom.

The present study focuses not solely on trainee attitudes about a training course. Nor does it limit itself to measuring intended trainee behaviors. Instead, the researcher's efforts extended beyond the time spent in the training environment and worked to assess the ability of content relevance to ultimately predict a participant's use of the behaviors taught in a training workshop after the trainee returned to his or her daily work.

Challenge Four: Unclear Use of Key Instructional Communication Terms

Sprague (2002) argues that instructional communication researchers do not show sufficient respect for naming key terms. She offers three observations to highlight the shortcoming. First, she explains that many terms lack face validity (e.g., verbal immediacy, which Gorham operationalized by having students brainstorm teacher behaviors). Second, she explained that conceptual language is at odds with lay person words (e.g., student misbehaviors and teacher misbehaviors). Lastly, she explains that language used in instructional communication is often at odds with usage in communication education.

This study addressed Sprague's concern by considering how several key constructs are conceptualized and operationalized in the instructional communication literature and clearly defining each within the parameters of the proposed theory and associated research. Of particular emphasis is the definition of content relevance used in this study. As discussed shortly in the literature review, the study draws from instructional communication, education, and educational psychology literature to define

the construct. In doing so, the researcher addresses Sprague's concerns and contributes a revised operational definition of the content relevance construct.

Final Thoughts on Challenges Facing Instructional Communication Research

Much has been accomplished in the last three decades. Researchers have studied instructional communication from a number of perspectives and, as highlighted by Friedrich (2002), have begun the development of programs of study in the areas of immediacy (Andersen, 1979; Chesebro & McCroskey, 2001; Freitas, Myers, & Avtgis, 1998), power in the classroom (McCroskey & Richmond, 1983; Richmond & McCroskey, 1984), instructor behaviors (Allen & Shaw, 1990; Nussbaum, 1992), student and teacher socialization (Staton & Hunt, 1992; Staton-Spicer & Darling, 1986), and teacher and student feedback (Booth-Butterfield, 1989; Carrell & Wilmington, 1996).

This foundational work is critical to the direction of future study. The time has come to advance the research agenda and for instructional communication researchers to define instructional communication theories, test hypotheses in a number of instructional contexts, tie research efforts to learning outcomes, and shore up key instructional communication terms. This study ensures that, as it answers the call for accountability, it sets forth a theory for instructional communication that focuses on content relevance, its relationship to trainee state motivation, trainer credibility, trainee engagement, trainee attitudes about the training content, and, ultimately, trainee behaviors.

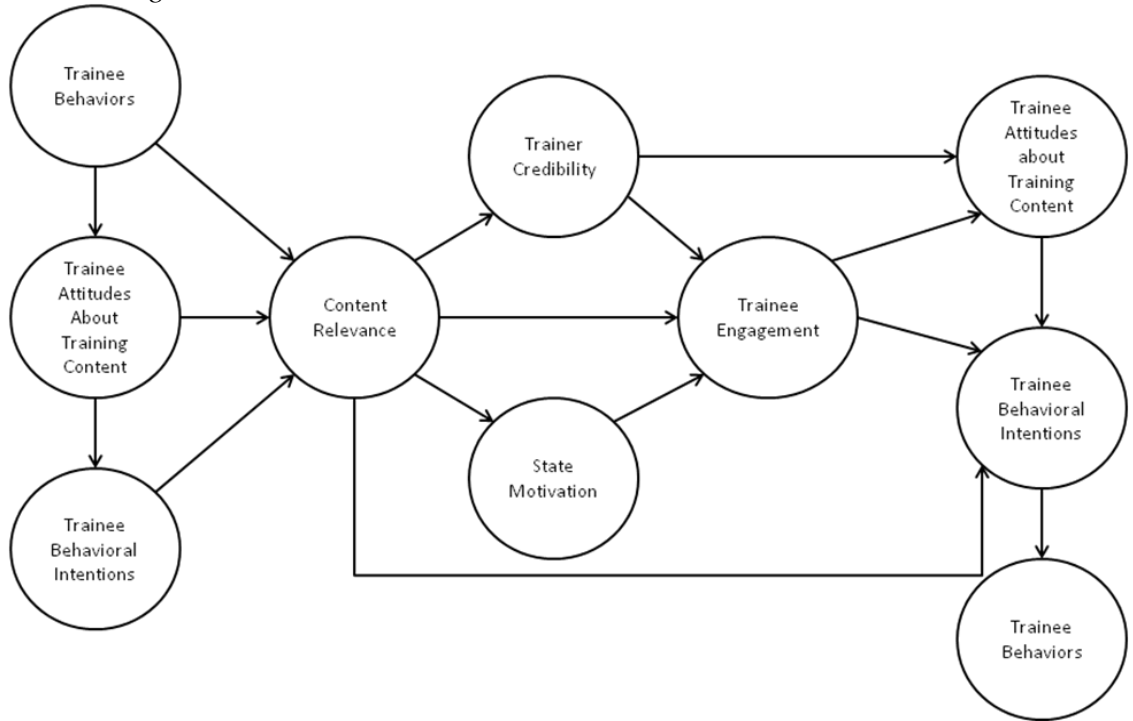
With the importance of conducting this study established as it relates to the four instructional communication challenges, attention is now turned to a review of relevant literature. The review provides the background of research on four constructs. These constructs serve as the core elements of the proposed Content Relevance Centric Theory. These are content relevance, trainee state motivation, trainer credibility, and trainee engagement. Each of these constructs is reviewed in the following section.

Literature Review

The argument for the current study began with the development of the conceptual model illustrated in Figure 1.1. A conceptual model provides a depiction of constructs and their relationships with one another. This model depicts the relationship among content relevance, trainer credibility, trainee state motivation, and trainee engagement

and how these constructs connect to trainee attitudes, behavioral intentions, and behaviors.

Figure 1.1: *Conceptual Model Depicting the Relationship Between Content Relevance and Learning Outcomes*



The literature review focuses on the constructs that serve as the center of the conceptual model. Of particular emphasis is the research on content relevance as this construct is central to the proposed model. A review of how instructional communication researchers have approached the constructs contained in the study is key to understanding what has been accomplished to date. It informs the researcher’s study preparation and identifies how best the present study adds value to the current body of knowledge. As alluded to earlier, content relevance is considered key to predicting learning outcomes. Thus, the literature review begins with the content relevance construct and looks at how the construct has been addressed in instructional communication, education, and educational psychology literature.

Content Relevance

The decision to focus on content relevance as central to the model and this study is grounded both in the emphasis placed on the construct in the existing body of literature

and the results of a recent pilot study the author conducted on the influence content relevance, instructor clarity, and instructor immediacy had on training course evaluation scores and related trainee comments (Leddin, 2008). The literature review first examines the work of Keller (1983, 1984, & 1987). It then explores how instructional communication scholars have applied the construct in their research. The review also includes a discussion of how the construct has been approached in both education and educational psychology research. Looking at work from instructional communication, education, and educational psychology perspectives ensures that the researcher heeds Sprague's (2002) advice for instructional communication scholars to consider education research in their studies. Ultimately, this study addresses gaps in current instructional communication literature in its approach to conceptualizing and operationalizing the content relevance construct.

The content relevance portion of the literature review uses Keller's work (1983, 1984, & 1987) as its point of embarkation for three primary reasons. First, Keller is credited as the pioneer of content relevance in a classroom setting. "The significance of content relevance in the classroom first was identified in Keller's work in the area of instructional design" (Chesebro & Wanzer, 2006, p. 89). Second, Keller is a prolific writer and researcher in the area of content relevance, having written over 40 articles and delivered numerous presentations on the subject (Keller, 2009). Keller, along with his colleagues, has studied content relevance in a number of instructional contexts including distance education (Keller, 1999; Suzuki, Nishibuchi, Yamamoto, & Keller, 2004), teacher training (Keller, 1984), and courseware design (Keller & Suzuki, 1988). Third, as indicated throughout this section, Keller's work is well cited in instructional communication, education, and educational psychology literature.

Keller developed the Attention, Relevance, Confidence, and Satisfaction (ARCS) model (1987). His model provides an approach for influencing a student's motivation to learn. "Relevance, in its most general sense, refers to those things which we perceive as instrumental in meeting needs and satisfying personal desires, including the accomplishment of personal goals" (p. 3). In discussing the ARCS model, Chesebro and Wanzer (2006) explain that content relevance has been conceptually defined as a "student's perception of whether instructional course content satisfies personal needs,

personal goals, and/or career goals” (p. 90). They explain that researchers and course designers have used the ARCS model in a number of contexts ranging from traditional classroom environments to internet-mediated instruction (Keller, 1999; Means, Jonassen, & Dwyer, 1997; Small & Gluck, 1994).

Instructional communication research on content relevance is fairly limited. For example, a review of 186 instructional communication studies between 1990 and 1999 uncovered only two studies that focused on content relevance (Waldeck, Kearney, & Plax, 2001). Notwithstanding the limited amount of work on the subject, Chesebro and Wanzer (2006) identify three knowledge claims that can be made based on content relevance research findings, each related to the current study. First, a number of studies have supported teacher efforts to make content relevant to students. Second, student reports relate content relevance to an increase in affect for instructor and subject material, motivation to learn, and sense of student empowerment. The current study explored the areas of affect and motivation. Third, the only time a study has failed to support the construct of content relevance is when the researcher(s) experienced problems manipulating relevance. The current study worked to overcome this issue by more clearly defining the content relevance construct and designing an intervention specifically intended to manipulate the variable. However, as discussed later, it proved to be a challenge for this study’s researcher as well.

The most prolific researcher in the area of content relevance in an instructional communication context is Frymier. Her research, combined with the efforts of her colleagues, includes the relationship between content relevance and student state motivation and the development of a 12-item scale to assess content relevance (Frymier & Shulman, 1995). The scale was developed and has been used in instructional communication research to “measure students’ reports of their teachers’ use of relevance strategies in the classroom” (Mottet, Richmond, & McCroskey, 2006, p. 287).

In a subsequent study, designed to build on previous findings, Frymier and Houser (2000), failed to identify relevance as a significant predictor of student motivation. However, they explain that the lack of significance is likely more a function of how the variable was manipulated than of the importance of the construct.

In a more recent instructional communication study of teacher content relevance behaviors, Mottet et al.(2008) examined how ninth-grade students perceived their science teachers' instructional communication behaviors. They found that content relevance behaviors predicted a student's desire for additional courses in science and math, as well as the student's interest in the fields of science and math as possible career choices. As with previous instructional communication studies, Mottet et al. used Frymier and Shulman's (1995) content relevance scale. The continued use of this scale by instructional communication scholars reaffirms the instrument as the key approach to operationalizing the construct. As discussed later in this document, this instrument measures teacher content relevance communication behaviors. It does not measure message relevance. The instrument proposed and used in this study addresses this issue by adding items that focus on message relevance.

In a recent pilot study, the author (Leddin, 2008) focused on a portion of the learning outcome equation by considering the influence of content relevance, instructor clarity, and instructor immediacy on participant evaluation scores in a corporate training environment. The author argued that understanding the relationship between instructional communication concepts and participant evaluations is fundamental to the ultimate connection of instructor communication efforts to participant behavioral learning.

He analyzed feedback from 1,064 training course participants who attended a one-day corporate training workshop delivered by a large training corporation to assess the influence of content relevance, instructor clarity, and instructor immediacy on participant course evaluations. The results of this investigation supported the hypothesis that content relevance is a significant predictor of course evaluation scores. The researcher did not find support for either instructor immediacy or instructor clarity as significant predictors of training course evaluation scores, however.

In the study, a stepwise multiple regression showed that both negative and positive content relevance comments significantly predicted student assigned training course evaluation scores. Positive content relevance items achieved an $F = 75.45$, $R^2 = .508$, adjusted $R^2 = .502$, and $p < .0001$. Including negative content relevance items in the model resulted in $F = 61.77$, $R^2 = .632$, adjusted $R^2 = .622$, and $p < .0001$, with

positive relevance beta = .478 and negative relevance beta = -.423. Instructor immediacy (positive or negative) and instructor clarity (positive or negative) did not enter the stepwise multiple regression.

Clearly, this study identified the significance of content relevance as a predictor of trainee evaluation scores; however, the project was limited in a number of areas. Two specific limitations of this past research project are of particular importance in the context of the current study. First, the previous research effort failed to connect content relevance to actual trainee behaviors. Second, it did not posit a theory of content relevance. Instead, the researcher simply examined the relationship between the construct of content relevance and trainee evaluation scores without attempting to identify causation. The current research study builds on the past work and addresses the shortcomings by presenting the Content Relevance Centric Theory, testing associated hypotheses, and focusing on trainee behaviors as a critical learning outcome.

Education and educational psychology researchers have studied the role that instructors play in making content more relevant to students for years. Of specific interest to this current study is expectancy-value theory. In discussing the use of expectancy-value theory as it relates to motivation in health education, Noar, Anderman, Zimmerman, and Cupp (2004) explain that the theory stems from research on human motivation (Atkinson, 1958; Lewin, 1935). In earlier work on human motivation, Eccles, in conjunction with fellow researchers (Eccles, 1983, Wigfield & Eccles, 1992), contends that people are motivated to engage in learning when they value the task and when they believe they will succeed in applying the task. These two elements, value and expectancy, are further defined by a number of components.

Specifically, Wigfield and Eccles (1992) have found that students who value a task commonly expect to succeed at the task. Eccles and Wigfield (1995) identified four components to the value dimension: attainment value, intrinsic value, utility value, and cost. Attainment value addresses how important the student perceives the task to be to himself or herself. Intrinsic value focuses on how interested the student is in the task. Usefulness involves the degree to which the student feels the task is useful. Lastly, cost is a function of whether or not the student perceives any negative aspect, or cost, related

to engaging in the task. The second element, expectancy beliefs, addresses how a student perceives that she or he will be able to perform a given task.

Education psychology researchers have also applied expectancy-value theory in considering the value of content. “Educational psychology investigates the underlying psychological and intellectual processes that explain and predict student learning. Specifically, the focus of educational psychology research is on the individual learner” (Mottet & Beebe, 2006, p. 7). Scholars have considered content value as it relates to racial identity, centrality, and giftedness (Rodgers, 2008), gender (Green and DeBacker, 2004) and studies of the role of self-efficacy, task value, and achievement goals using a combination of expectancy-value and achievement goal theories (Liem, Lau, & Nie, 2008). In each study, the educational psychology researcher focused on the motivation of an individual student to learn based on the value he or she placed on a given task.

Education and educational psychology research shows that scholars in these disciplines focus their research more on message relevance than on source relevance. That is, the emphasis on value and cost supersedes instructional communication’s focus on teacher communication characteristics. Consider a study conducted by Newby (1991) where research on motivational strategies used by 20 first-year elementary school teachers found that, “there was a significant positive correlation between relevance strategies and on-task behaviors” (p. 195). The research also determined that despite the positive correlation, of all the motivational strategies employed in the classroom, relevance strategies were used least often: only 7.1 percent of the strategies used involved the teacher explaining the value or purpose of the learning. Although beyond the scope of the proposed study, these research results make one wonder if the emphasis in past research studies on the value of content message relevance has influenced practitioners or if the opposite is the case.

Based on an examination of content relevance literature, the proposed study conceptualizes content relevance as the trainee’s perception that the course material is valuable to his or her desire to meet current needs, satisfy personal desires, and achieve personal goals. Furthermore, the proposed Content Relevance Centric Theory focuses on the relationship between content relevance and three other instructional communication constructs: credibility, motivation, and engagement. As discussed herein, the inclusion

of these constructs in the proposed theory is based on prior research conducted by both the author and other researchers. With relation to the content relevance construct, the proposed theory contends that an increase in content relevance will increase trainee state motivation. With this in mind, the literature review progresses to looking at past research on state motivation.

State Motivation

Motivation is often discussed in communication education and instructional communication research as a key component to learning. The ARCS motivation model itself (Keller, 1984) is specifically designed to help course designers and instructors. It helps them to better understand the factors that influence motivation and specific strategies then use enhance motivation in the classroom.

Instructional communication literature is interspersed with studies involving the motivation construct. The body of literature includes work on attributional confidence, affective learning, and teacher clarity (Avtgis, 2001), trust and motivation (Jaasma & Koper, 1999), and perceived immediacy and motivation (Carrell & Menzel, 2001; Ellis, 2004). In considering the relationship between immediacy and motivation, Allen, Witt, and Wheelless (2006) contend that “research demonstrates that higher levels of perceived immediacy...enhance students’ approach behaviors and increase the level of enthusiasm or commitment to the learning task” (p. 23).

Instructional communication researchers have used and continue to use the motivation construct as it is believed to play a major role in driving learning outcomes. For the present study, the researcher was specifically concerned with how motivation is conceptualized in the research and how instructional communication researchers have studied motivation. To address these concerns, attention is turned to two of Christophel’s (1990) studies looking at the relationship between teacher immediacy and student state and trait motivation and their combined influence on learning. In the course of the research on motivation, Christophel differentiated state and trait motivation by explaining that, “trait motivation is a general, enduring predisposition toward learning, while state motivation is an attitude toward a specific class” (p. 324). In other words, students, or in the case of the present study trainees, come to any learning opportunity with a pre-existing motivation to learn, trait motivation, that endures over time regardless of course

content. Conversely, state motivation varies over time. It is influenced by variables such as the course content itself and the way the content is delivered.

To uncover the link between content relevance and state motivation, Frymier and Shulman (1995) studied the relationship between perceived teacher relevance behaviors and students' motivation to learn. They looked at how instructor use of explicit relevance behaviors influences college student perception of content applicability. "The results of this study indicated a moderately strong correlation between relevance and state motivation. Greater use of relevance strategies was related to increased state motivation to learn" (p. 93). Other instructional communication studies have yielded similar connections between content relevance and student motivation (Cruickshank & Kennedy, 1986; Millete & Gorham, 2002).

In the Content Relevance Centric Theory, the author posits that state motivation influences trainee engagement. At the same time, trainer credibility, another instructional communication construct, also influences trainee engagement. Because of the proposed influence of credibility on trainee engagement, the focus of this paper shifts to how credibility is addressed in instructional communication literature.

Credibility

The discussion of source credibility dates back to Aristotle (1991) and his argument that credibility is a speaker's most powerful rhetorical strategy. In summarizing the research on credibility, Myers and Martin (2006) identify four primary findings. The first finding drawn from the work of McCroskey and Mehrley (1969) contends that speakers who are perceived as organized are also considered more credible. Second, Wheelless (1973) reports that credibility can be increased for those who are otherwise considered low credibility sources by making credible statements. Third, according to Ragsdale and Mikels (1975), increased credibility is associated with presenters who effectively handle questions. Lastly, Infante (1980) found that speakers who are perceived as credible have an increased positive effect on those listening to their presentation.

McCroskey (1998) defined source credibility as "the attitude of a receiver that references the degree to which a source is seen to be believable" (p. 80). In the context of the current study, an increase in believability is ultimately related to an increase in the

application of behaviors taught in a training course. Instructional communication research provides support for this claim as sources who are viewed as credible motivate students to increase academic performance (Frymier & Thompson, 1992), experience a higher degree of respect by students (Martinez-Egger & Powers, 2002), and benefit from students who contribute to in-class discussions (Myers, 2003). Beyond the instructional communication literature, training and development related texts argue that there are numerous benefits when the training workshop participants perceive the trainer as more credible. These benefits include the willingness of trainees to be less critical of trainer mistakes. “If you have high credibility, the trainees may forgive some of the delivery errors you commit” (Beebe, Mottet, & Roach, 2004, p. 211). The authors further articulate specific behaviors a trainer can employ to increase her or his perceived level of credibility. These include being confident, authentic, and professional.

Another way to trace the history of the credibility construct is to look at the instruments researchers have used over the last three decades to operationalize credibility in various research studies. The original instrument designed to assess the teacher credibility construct consisted of five dimensions. These were extroversion, composure, socialibility, competence, and character. In defining the instrument, McCroskey, Holdridge, and Toomb (1974) looked to build on previous work performed on source credibility related to public figures. In doing so, they argued that “students may not respond to teacher-sources on the same dimensions on which they respond to public figures” (p. 26). The study, which involved 938 undergraduates, led to the development of the 14-item teacher credibility measure that addressed each of the five dimensions.

Building on the 1974 study, McCroskey and Young (1981) first worked with 726 college students, asking them to provide adjectives to describe a person they would most likely and least likely believe. Analysis of the results led to 30 adjective pairings focused on source credibility. For the next step in the study, 2,057 college students were then asked to assess the source credibility of a peer, a spouse, an organization, a media source, a political figure, or a teacher using the 30 adjective pairing, plus an additional six pairings that focused on the size (e.g., large/small, big/little) and five that were completely divorced from the topic of credibility. The results of the study led to both a replication of previous findings (McCroskey, et al., 1974) and the identification of three

additional factors. However, in the final analysis the authors determined that the dimensions of competence and character were the two best sources for identifying credibility. “While theoretically there are three dimensions in the source credibility or ethos construct, in terms of empirically based perceptions, these three collapse to two” (McCroskey & Young, 1981). The measure of credibility defined in the present study, which includes both competence and character, has been used in numerous studies by instructional communication scholars (Frymier & Thompson, 1992; Johnson & Miller, 2002; Schrodt, 2003).

In a Teven and McCroskey (1997) study, the source credibility construct was revisited. Arguing that the current credibility construct failed to capture Aristotle’s original concept of ethos, which included goodwill, the authors ultimately expanded the source credibility instrument to include a third dimension, caring. In so doing, they offer this interesting comment, “it is not the caring that counts; it is the perception of caring that is critical” (Teven & McCroskey, 1997). As with the two dimension source credibility instrument, the three dimension version has been used in a number of studies (Bringer & McCroskey, 2000; Myers, 2001; Wrench & Richmond, 2000). It is argued later in this paper that goodwill, although a component of the credibility construct, is not as critical an element to the proposed theory as is competence and character given the trainees engaged in the study and the nature of the trainer-trainee relationship.

Based on the work instructional communication scholars have completed in the area of source credibility, Myers and Martin (2002) offer two knowledge claims about the construct that are of particular interest to the current study. First, they explain that source credibility is a student’s perception of the instruction and although instructors may employ certain strategies to enhance their credibility, it ultimately requires the student to see them differently. Second, although an instructor may be perceived as having a higher score in one credibility dimension over another, the dimensions work in concert with one another and failure of the instructor to do well in either dimension will reduce a student’s perception that the instructor is credible.

As discussed previously, the proposed theory considers the influence that both state motivation and credibility have on trainee engagement. Having discussed how both

state motivation and trainer credibility are addressed in past instructional communication research, this paper now focuses on the trainee engagement construct.

Trainee Engagement

Engagement is seen as a critical component to increasing the effectiveness of a training program as it works to increase participant reflection and interaction. Engagement is about participants, in the case of the current study, adult professionals, engaging in the activities presented in the course. The author contends that trainee engagement is key to the accomplishment of increasing a trainee's attitude about the course content and ultimately increasing the likelihood of a trainee putting to use what he or she learned in the course. "Adult learners want to take an active role in what they learn...effective trainers find ways to engage their students" (Beebe, Mottet, & Roach, 2004, p. 115).

Henning (2007) found that three elements constitute engagement: skills, in-class participation, and class preparation. As discussed in the methods section of this paper, the training course that is the intended subject of the current study has no required pre-work and is only one-day in duration. Therefore, the conceptual definition discussed herein focuses on Henning's work regarding skills and in-class participation. These in-class activities include behaviors such as participant involvement in workshop discussions, question asking, note taking, and listening skills. The following sections provide an overview of instructional communication research in each of these areas as a student's involvement is related positively with their state motivation, satisfaction, and learning (Frymier, 2005; Myers & Bryant, 2002). One's ability to apply listening skills is interwoven in the capacity to participate in class, take notes, and ask questions. Therefore, the literature review focuses primarily on the areas of involvement, question asking, and note taking.

A student's willingness to participate in class is often exhibited in the questions he or she asks, the information-seeking strategies used, and the level of involvement in classroom or workshop interactions (Myers, Edwards, Wahl, & Martin, 2007). It has been argued that asking questions is the primary means participants use to engage in the classroom (Cunconan, 2002). Asking questions is a way for participants to express a need for help, communicate comprehension issues, and appeal for further information

(Darling, 1989; Kendrick & Darling, 1990). A number of research efforts to study question asking have been undertaken. These include the influence of instructional interactions on intentions to ask questions, student's comfort with asking questions, and barriers to asking questions (Aitken & Neer, 1993; Daly, Kreiser, & Roghaar, 1994; Van der Meij, 1988). Much of the instructional communication and education research focuses on explicit information seeking efforts as an approach students use to gain information from an instructor. Research has found that in both the undergraduate and graduate classroom, students openly apply information seeking strategies most often to gain information (Myers, 1998; Myers & Knox, 2001). Researchers have placed value in student question asking and the desire to better understand instructor behaviors that facilitate the willingness of students to ask questions in the classroom. At this point, instructional communication researchers contend that one of the 28 teacher misbehaviors categories involves teachers who are unresponsive to students' questions. A teacher exhibiting this form of misbehavior, "does not encourage students to ask questions, does not answer questions or recognize raised hands, and/or seems 'put out' to have to explain or repeat himself/herself" (McPherson, Kearney, & Plax, 2006, p. 217).

Simply looking at trainee question asking or overt information seeking behaviors is necessary to understanding participant engagement; however, it is not sufficient for the effort. Frankly, some trainees are more hesitant to talk than others and considering these constructs as the only means of determining engagement may lead to some false conclusions. The researcher may label a participant disengaged when he or she may be experiencing communication apprehension. The subject of communication apprehension has been studied for over three decades by instructional communication researchers (McCroskey & Andersen, 1976; McCroskey, 1977; McCroskey, Booth-Butterfield, & Payne, 1989). Additionally, the notion of communication apprehension is present in training and development literature. "Many trainees, because of their personalities or temperaments, prefer not to talk or are apprehensive and fearful about communication in the training classroom" (Beebe, Mottet, & Roach, 2004, p. 217). To avoid limiting the construct of trainee engagement to question asking and overt information seeking and potentially missing an important component of engagement, the current study also includes the construct of note taking as part of the engagement construct.

When a learner engages in note taking, he or she is typically trying to fulfill two functions (Boch & Piolat, 2004). The first function is to record information. This is helpful to trainees as a means of capturing information provided by the instructor for future reference. The second is to aid in reflection. Trainees can reflect on information presented by the trainer during or after the training session is complete. Note taking is used in the classroom environment, daily life, and many professions (Hartley, 2002), is a common communication behavior in most classrooms (McKeachie, 1999), and can be accomplished via a number of note taking strategies (Boch, 1999, Van Metter, Yokoi, & Pressley, 1994).

Of interest to this study is less the approach taken by the student to capture notes (e.g., matrix structure or tree diagram) as it is concerned more with whether the trainee chooses to take notes and how well the trainee believes he or she did at taking the notes. The importance of note taking has been underscored in education psychology studies where students found that an increase in the number of ideas recorded in notes led to improved performance on recall tests (Fisher & Harris, 1973). Additionally, instructional communication researchers identified similar connections between a student's notes and his or her performance on both achievement tests (Titsworth & Kiewra, 1998) and detailed tests (Titsworth, 2001).

Gaps in Instructional Communication Literature.

There are numerous gaps that one might identify when reviewing existing instructional communication literature. The current study is concerned with two specific deficits as it sets forth a proposed theory and test related hypotheses. First, there is a disparity between how Keller (1987) conceptualized content relevance and how instructional communication scholars have operationalized the construct. Second, previous studies have failed to successfully manipulate the instructional communication content relevance construct. The latter gap is fairly straightforward and was discussed earlier; therefore, it will not be addressed further. However, the former gap requires further explanation.

At its essence, content relevance involves at least two critical components. First, teachers must employ content relevant teacher communication behaviors in an effort to convey to each student the relevance of a given topic. Second, the student must believe

that the content is important to meeting his or her needs, personal goals, and/or career goals. These two components, teacher communication behaviors and message content relevance, are evident in Keller's (1984) own recommendations on how to increase relevance. Keller sets forth six major strategies that course designers and instructors should employ: experience, present worth, future usefulness, needs matching, modeling, and choice. The experience strategy is designed to build on a learner's existing skills, while present worth focuses on how the learning can be applied to meet a current challenge. Future usefulness addresses how the instruction might relate to future activities of the learner. Needs matching involves linking content to specific learner needs such as achievement, promotion or growth. Modeling includes demonstrating to the learner the value and relevance of the content and choice affords the learner alternative methods for accomplishing a goal. Teacher communication behaviors are evident in the strategies of experience and modeling, where the instructor is encouraged to share experiences and model certain behaviors for the students. Meanwhile, other strategies, such as present worth and future usefulness, involve the student finding personal value in the content, thus positively influencing message content relevance.

Looking through the lens of perceived teacher communication behaviors and message content relevance the literature review reveals a concern with how instructional communication scholars have approached the construct. The 12-item content relevance instrument (Appendix C), which is the primary means instructional communication scholars have used to assess content relevance, primarily deals with teacher communication behaviors and fails to fully consider message content relevance. A review of the 12-items reveals nine items that address teacher communicate behaviors and three that focus on examples. None of the items deal directly with the content. Essentially, the instrument primarily concerns itself with the teacher's behaviors while failing to consider how those behaviors influence or fail to influence a student's belief in the relevance of the content. The current study works to address both of these gaps by employing a more robust approach to manipulating the content relevance construct as part of the study's design and modifying the existing 12-item instrument to include both teacher communication behaviors and message content relevance.

Proposed Theory and Study Hypotheses

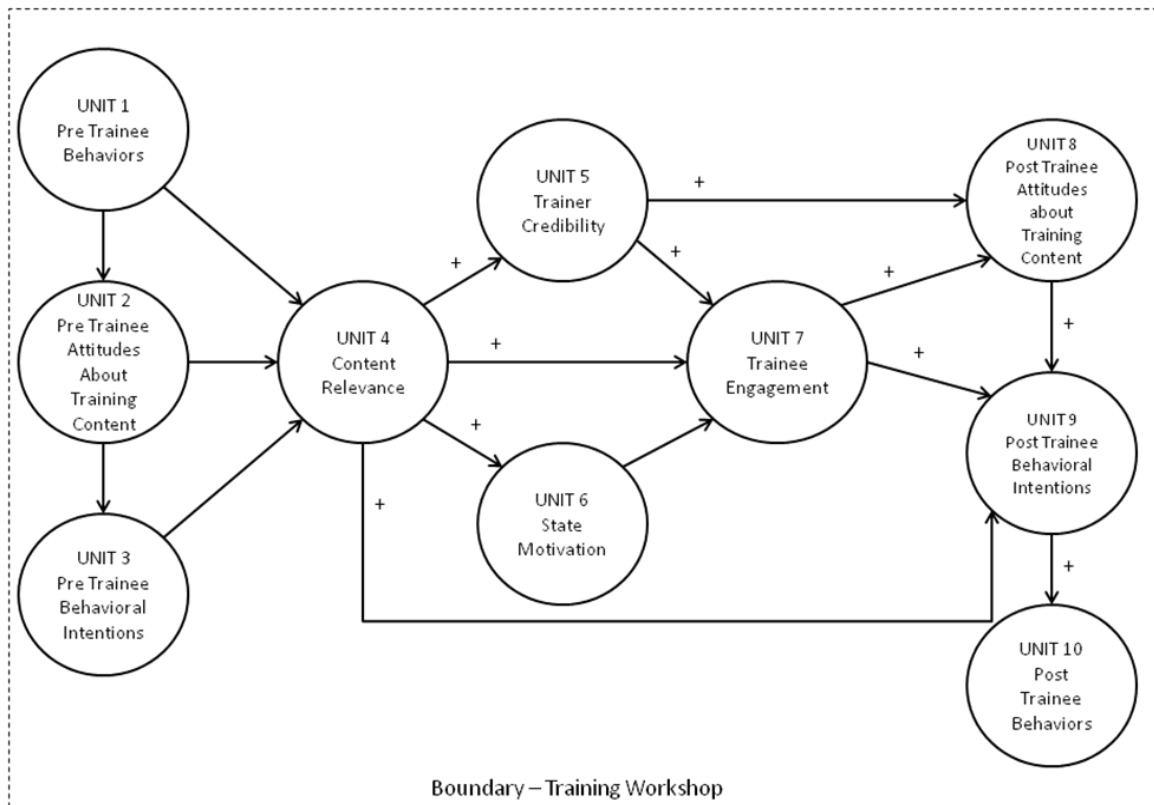
As discussed previously, instructional communication research to date suffers from four primary challenges that the current study addresses: an overemphasis on variable-analytic and atheoretical research, failure to address a wide range of learning contexts, few studies that tie research to learning outcomes, and an unclear use of key instructional communication terms. Additionally, the literature review revealed two significant gaps in the existing instructional communication body of knowledge. First, a discrepancy exists between how content relevance is conceptualized and operationalized. Second, past researchers failed to effectively manipulate the content relevance construct. The current study works to address the four challenges and the two literature gaps and in doing so contribute greatly to efforts of instructional communication scholars.

Central to the study is a proposed theory that focuses on the influence content relevance has on a number of variables including behavioral learning. The following section explains how these constructs are organized in the proposed theory, conveys how they interact, and presents eight hypotheses to test the propositions contained in the new Content Relevance Centric Theory.

Assessing the Proposed Theory

One of the claims of this study is that it addresses the challenge of instructional communication researchers' overemphasis on variable-analytic and atheoretical studies by presenting a theory and testing related hypotheses. Before launching into the hypotheses, it is appropriate to support the claim that the proposed theory is truly a theory. Dubin (1978) provides the basic elements of a theoretical model. These include units, laws of interaction, boundaries, and system states. This section employs Dubin's framework to organize the proposed theoretical model. Figure 1.2 provides a graphical representation of Dubin's elements as they relate to the research study's model.

Figure 1.2: *Content Relevance Centric Model Illustrating Dubin’s Elements*



The fundamental building blocks of theories are units, a term used to “designate the things out of which theories are built” (Dubin, 1978, p. 38). The proposed theoretical model contains ten units. For purposes of discussion, the units are organized into three categories based on when each unit is measured. The first three units are assessed prior to the training workshop and are pre trainee time management behaviors, pre trainee attitude about the training content, and pre trainee intended behaviors. The next four units, content relevance, trainee state motivation, trainer credibility, and trainee engagement, represent the primary constructs in the model and are influenced during the training itself. The final unit category occurs after the completion of training and involves similar items as the three included in the first category. These are post trainee attitudes about the training content, post trainee intended behaviors, and post trainee time management behaviors 21 days after completion of the training workshop.

Dubin (1978) states that a law of interaction, “links the subject (unit) with the object (unit) in the sentence...the term law of interaction is employed to focus attention

on the relationship being analyzed” (p. 90). The proposed theoretical model contends that an increase in content relevance positively influences trainee state motivation, trainer credibility, and trainee engagement. Furthermore, the positive increases in these units leads to a significant improvement in trainee behaviors, trainee attitude about the training content, and trainee behavioral intentions when pre-training scores are compared with post-training scores.

Dubin (1979) explains that a boundary identifies, “the limiting values on the units comprising the model” (page 126). The proposed theoretical model includes trainers and trainees interacting face-to-face in a professional training workshop. Specifically, the study included eight trainers and 247 trainees who were attending a one-day time management workshop conducted by TimeWise Training and delivered in the central portion of the United States. (Note: in order to maintain the actual company’s anonymity, the pseudonym, TimeWise is used throughout this document.)

A system state is determined, “when all units of the system have characteristic and determinant values, and when these constellations of values persist through some time interval” (Dubin, 1978, p. 145). This concept was alluded to previously when discussing laws of interactions. For the proposed theoretical model, one system state would include the state where a trainee’s perception of content relevance increases her or his state motivation and workshop engagement.

With Dubin’s four essential elements satisfied, it is clear that the proposed theoretical model meets his requirements. Furthermore, as revealed and tested in the study’s hypotheses, the proposed theoretical model meets Chaffee and Berger’s (1987) definition that a theory is, “a set of constructs that are linked together by relational statements that internally consistent with each other” (p. 101).

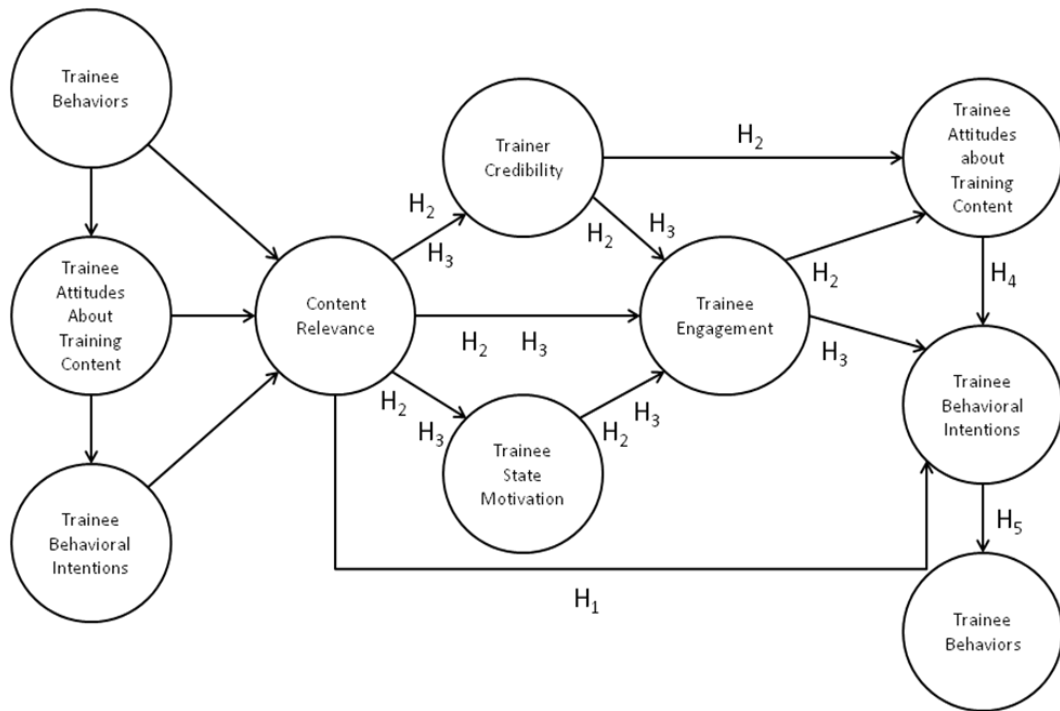
With the assertion that the proposed theory is a theory substantiated, attention is turned to the hypotheses explored in the present study. The eight hypotheses were designed to build upon one another and are ultimately intended to test predictions regarding content relevance’s ability to predict various learning outcomes. The hypotheses are organized into two groups. The first group contains six hypotheses designed to test the claims made by the posited theory. The second contains three

hypotheses that focus on the ability to manipulate the content relevance variable between two groups of trainers.

Group One Hypotheses

These hypotheses are designed to test several assertions made by the proposed theory. Figure 1.3 depicts the relationship of content relevance to learning outcomes and highlights the five hypotheses contained in this group. Following the illustration is a listing of the five hypotheses and a brief explanation of each.

Figure 1.3: *Content Relevance Centric Theoretical Model Depicting the Relationship of Content Relevance to Learning Outcomes and Highlighting Study Hypotheses*



Hypothesis 1: Content relevance will significantly predict post trainee behavioral intentions.

The researcher argues that an increase in content relevance will lead to an increase in trainee behavioral intentions. Essentially, if a trainee perceives the content to be relevant to her or his current needs, goals, or anticipated future needs, she or he is more likely to express an intention to embrace the behaviors taught in the workshop.

Hypothesis 2: Content relevance as mediated by trainer credibility, trainee state motivation, and trainee engagement will significantly predict post trainee attitudes about training content.

The author contends that an increase in content relevance will lead to an increase in positive trainee attitudes about the training content. Furthermore, the character and competence of the trainer (credibility) will mediate this increase (or decrease) as a trainer who is seen as credible and presents relevant content, will benefit from positive attitudes from the trainee. In addition to trainer credibility and trainee engagement, trainee state motivation will also mitigate trainee attitudes about the training content. A trainee, who is more motivated by the content, is likely to express a more positive attitude about the training content.

Hypothesis 3: Increased content relevance as mediated by trainer credibility, trainee state motivation, and trainee engagement will significantly post predict trainee behavioral intentions.

Trainees will express a significant increase in their intent to employ the time management behaviors taught during the workshop as a function of an increased level of content relevance as mediated by trainer credibility, trainee state motivation, and trainee engagement.

Hypothesis 4: Increased trainee attitudes about training content will significantly predict an increase in post trainee behavioral intentions.

Trainees who express more positive attitudes about training content are believed to express higher intention to apply the behaviors discussed in the workshop.

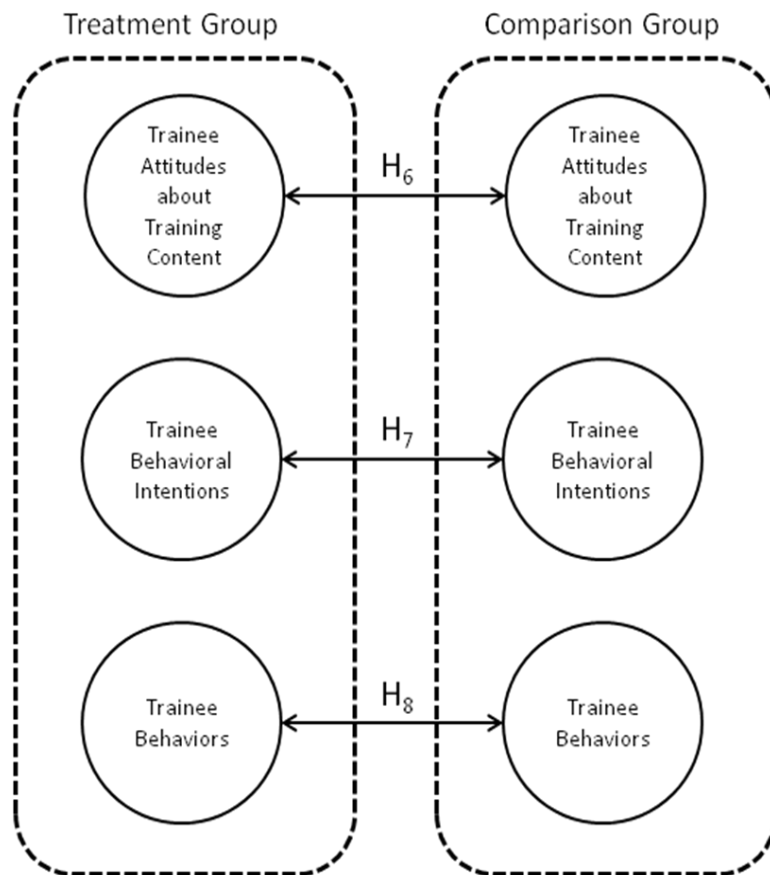
Hypothesis 5: Increase in trainee behavioral intentions will significantly predict an increase in post trainee behaviors.

As the final hypothesis in this group, the researcher believes that when measured 21 days after training completion, participants who express an increased intent to perform the behaviors taught in the class will also have an increased level of actual behaviors when compared to those who express a lower level of intent. Thus, trainees who convey a high-level of commitment to applying what they learned in class will follow through on that commitment by reporting a higher level of application of the workshop content in their daily lives.

Group Two Hypotheses

The second group of hypotheses focuses on anticipated differences found in classes taught by trainers who have received training on content relevance. These hypotheses demonstrate the researcher's belief that the content relevance construct can be manipulated by the study, yielding statistically significant results. Figure 1.4 illustrates the three comparisons that the researcher considered between the two groups. The expectations about the comparisons are articulated in hypotheses six through eight.

Figure 1.4: *Depiction of Hypotheses Six to Eight and Two Study Groups*



Hypothesis 6: Participants in the treatment group will experience higher, positive post trainee attitudes about training content than those in the comparison group. This hypothesis contends that the researcher will be able to manipulate how trainees perceive content relevance within a given workshop by providing randomly selected trainers training on the importance of content relevance and strategies they can employ to

make content more relevant to their workshop participants. Furthermore, the ability to manipulate the content relevance variable will create a situation where trainees in the treatment group express more positive attitudes about the training content than those trainees in the comparison group.

Hypothesis 7: Participants in the treatment group will exhibit higher, positive post trainee intended behaviors than those in the comparison group.

Not only will participants in the treatment group express more positive attitudes about the training content than those in the comparison group, they will also report a higher level of commitment to applying what they learned in the workshop.

Hypothesis 8: Participants in the treatment group will experience more improved post trainee time management behaviors than those in the comparison group.

The final hypothesis indicates that those trainees, who attend treatment group workshops, will report a higher level of learning application 21 days after the completion of the training. They will not merely express a higher commitment to the content as indicated in hypothesis eight, but they will actually choose to apply the learning at a higher level than those in the comparison group.

Research Questions

In addition to the hypotheses, three research questions were considered in the study. The questions focused on the effectiveness of the TimeWise training. This is accomplished by comparing trainee attitudes about the training content, behavioral intentions, and behaviors pre-workshop with those post-workshop. The research questions are as follows:

Research Question 1: Do trainee attitudes about the training content change as a result of the training?

Research Question 2: Do trainee behavioral intentions change as a result of the training?

Research Question 3: Do trainee time management behaviors change as a result of the training?

Summary

As indicated in this section, the proposed study is designed to address four general concerns expressed by instructional communication scholars as well as close two specific gaps in the instructional communication literature. To do so, a number of hypotheses will be tested through a fairly complex research study. The next section is designed to illuminate the complexities of the study and in doing so puts forth the researcher's study methods and approach to data analysis.

Chapter 2: Methods

To identify the number of participants required to adequately test the eight research hypotheses in the current study and answer the three research questions, the researcher completed an a priori power analysis using the computer program G*Power 3.1.0. The power analysis involved identifying requirements for the mixed model ANOVA analyses necessary to compare both within and between group differences as well as the multiple regression analyses that will determine the extent to which seven predictor variables (content relevance, trainer credibility, trainee state motivation, trainee engagement, trainee attitudes about training content, and trainee behavioral intentions) might account for unique variance in the criterion variable (trainee behaviors).

For the ANOVA analysis, alpha was set at .05 and power at .95. The following analyses were calculated and the results are as follows: for a small effect size, $f_2 = .02$, $F(1, 644) = 3.8559$, Noncentrality parameter Lambda = 13.0400, minimum $N = 652$; for a medium effect size, $f_2 = .15$, $F(1, 81) = 3.9588$, Noncentrality parameter Lambda = 13.3500, minimum $N = 89$; and for a large effect size, $f_2 = .35$, $F(1, 32) = 4.1490$, Noncentrality parameter Lambda = 14.0000, minimum $N = 40$. Assuming medium to large effects, an appropriate sample for the ANOVA analyses would consist of between 40 and 89 participants.

As with the ANOVA analysis settings, the multiple regression analysis alpha was also set at .05 and power at .95. The following analyses were calculated and the results are as follows: for a small effect size, $f_2 = .02$, Noncentrality parameter Lambda = 12.9984, minimum $N = 8,124$; for a medium effect size, $f_2 = .15$, Noncentrality parameter Lambda = 13.3200, minimum $N = 148$; and for a large effect size $f_2 = .35$, Noncentrality parameter Lambda = 14.7000, minimum $N = 30$. Assuming medium to large effects, an appropriate sample for the regression analyses would consist of between 30 and 148 participants.

Based on the results of the a priori power analysis, a sample of 200 trainees is necessary to minimize the likelihood of committing a Type 2 error. The single criterion for inclusion in the study is that the individual trainee attends time management training delivered by TimeWise Training between February and May 2009. TimeWise, a self-proclaimed leader in the training industry, employees over 2,000 associates, operates in

95 countries, and trains thousands of participants daily on a growing number of business related topics. In fiscal year 2007, TimeWise achieved revenues of \$284 million (Hoovers, 2008).

Training Workshops

The researcher coordinated efforts with the General Manager of TimeWise's Central Region and received written approval from the General Manager prior to commencing the study. TimeWise's Central region covers the central part of the continental United States and Canada. The researcher worked with the General Manager to randomly select trainers who teach the company's one-day time management program. The use of the time management course is well suited for this study for two primary reasons. First, trainers instruct trainees on how to use a specific time management system. The system is designed to increase productivity, enhance individual goal setting, and integrate a number of time management tools (e.g., planner, desktop computer, and email) into an individual's daily routine. The nature of the content affords itself well to the assessment of trainee behaviors, as trainees will be able to identify whether or not, and to what degree, they are using the specific tools taught in the class.

Second, the sheer volume of available classes makes it possible to obtain access to enough study participants. For example, in the May to June 2008 timeframe, trainers from the participating company taught the course 113 times in the United States alone to over 4,000 participants. Approximately 30 percent of these courses, or 35 courses, occurred in the company's central region (TimeWise Focus Training, 2008).

Trainers

TimeWise randomly selected 10 trainers to participate in the study: five were randomly assigned to the treatment condition and five were assigned to the comparison condition. The researcher provided TimeWise two specific inclusion criteria regarding selected trainers to meet the study demands and objectives. First, each trainer must have taught the time management workshop for at least one year. Fuller (1969) argued that teachers develop through three phases of teacher concerns. These are pre-teaching, early teaching, and late teaching. As a teacher evolves through the phases, her or his concerns move from self to student impact. Choosing to include only facilitators with at least one

year of experience teaching the course is designed to target those who are arguably in the latter phases of development.

Second, as the study focused solely on trainees completing a time management workshop in a public setting, identified trainers must teach the course in this format. TimeWise delivers the one-day training workshop using one of two primary formats. The first format involves having a trainer deliver the content at a specific, client company to an intact group of employees. The second option, referred to as a *public program*, occurs when individual trainees register for an open enrollment program. These training workshops are typically held in either hotel meeting rooms or conference spaces. This study focused on the latter of the two delivery scenarios as public programs have the widest range of trainees including those from large businesses, small businesses, and public sector organizations, as well, individuals investing their personal time and money for professional development. Additionally, focusing on these programs, as opposed to onsite training with intact work teams, is designed to avoid some of the potential idiosyncrasies of a given team. Intact teams bring a shared history to the training room. This history might influence the results in a manner beyond the scope of the study.

Of the 10 trainers selected, two of them, both from the treatment condition did not participate. One trainer expressed concern that asking the trainees to complete the survey instruments would be too much of a distraction. The other trainer had his courses cancelled for lack of enrollment. Unfortunately, the two trainers left the study after data gathering commenced; therefore, they could not be replaced without negatively impacting the study. Thus, the two trainers were not replaced. Table 2.1 provides information regarding the remaining eight participant trainers. Information includes the trainer's group of assignment, gender, and ethnicity. A range is provided for each trainers age, years of work experience, years working with TimeWise, and years teaching the TimeWise workshop.

Table 2.1: *Trainers Participating in the Study*

Trainer	Group	Gender	Ethnicity	Age	Years Work Experience	Years with TimeWise	Years Teaching TimeWise Workshop
1	TC	F	Euroamerican	Over 50	Over 20	11-20	11-20
2	TC	M	Euroamerican	42-50	Over 20	1-5	1-5
3	TC	F	African American	42-50	Over 20	11-20	11-20
4	CC	M	Euroamerican	Over 50	Over 20	Over 20	11-20
5	CC	F	Euroamerican	Over 50	Over 20	Over 20	11-20
6	CC	F	Euroamerican	Over 50	Over 20	Over 20	6-10
7	CC	M	Euroamerican	Over 50	Over 20	Over 20	Over 20
8	CC	F	Euroamerican	Over 50	Over 20	Over 20	11-20

TC = Treatment Condition, CC = Comparison Condition

Trainer Training

Trainers randomly assigned to the content relevance group received training designed by the researcher to explain the importance of content relevance and how they can use content relevance strategies when teaching the time management workshop. Trainers assigned to the comparison group did not receive content relevance training; however, they did receive access to the training at the completion of the study. Trainers in both the conditions received an orientation on how the study was to be conducted and their roles in the study. The following provides an explanation of the two content relevance training segments, as well as the study's approach to trainer orientation.

Training for treatment condition trainers was delivered via the internet and consisted of two five minute video segments. Each segment consisted of a narrator presenting a PowerPoint presentation facilitated by Jing 2.0 software. Undoubtedly, asking professional trainers to change their approach to workshop facilitation needs to begin with an explanation of the importance of making such a change. This first segment focused on Leddin's (2008) study and the finding that content relevance explained 62 percent of the variability in trainee course evaluation scores. These scores are important

to TimeWise facilitators as the numbers are considered in a facilitator's performance evaluations and play a role in future advancements within the organization. Making the case to TimeWise trainers that improving content relevance may lead to higher participant evaluation scores is of keen interest to them.

With the connection between making content more relevant and trainee course evaluation scores established, the second five-minute training segment focused on Keller's (1987) strategies for making content more relevant. The six application strategies, experience, present worth, future usefulness, needs matching, modeling and choice, were explained. The first strategy, experience, is designed to build on participant's existing skills. Facilitators, who apply this strategy, will use familiar analogies to make connections and take the time to discover participant interests and relate them to the instruction.

The second strategy, present worth, focuses on helping participants understand how they can use the material to immediately improve their personal and professional lives. Trainers were advised to not be preachy in conveying present worth. Instead, they should simply work to help trainees answer questions like "why should anyone care about this?" or "what's in it for me?"

The third strategy, future usefulness, helps trainees connect what they are learning in the workshop to future needs or activities. Trainers were encouraged to challenge participants to relate the instruction to their own future goals. The fourth strategy, needs matching, focuses on helping trainees link the content to their needs for achievement, promotion, and growth. The fifth strategy, modeling, allows the trainer to demonstrate and model the value of the content. The video segment explained that through personal examples, a trainer can demonstrate his or her enthusiasm for the content. The final strategy, choice, affords trainers the opportunity to provide trainees meaningful alternative methods for accomplishing a goal. This may be done by explaining different time management systems they can use or identifying option for four critical time management system elements.

At the conclusion of the second five-minute video segment, treatment condition trainers were asked to complete a worksheet (see Appendix E) and provide a copy of their completed worksheets to the researcher prior to teaching their next training session.

The worksheet asked the trainers to identify one to three examples of trainee behaviors in the past that they have experienced for each of Keller's strategic categories and then identify actions they can take as trainers to mitigate the issues. Each treatment condition trainer in the study completed the assessment and provided their input to the researcher.

In addition to the two training video segments, trainers for both the treatment condition and comparison condition viewed a five-minute video that provided them an overview of the study and their role in the research project. To avoid tainting comparison condition trainers, no reference was made to the other training videos or the focus of the study on content relevance or any other instructional communication construct. It focused solely on the logistical aspects of the study including how to distribute and collect the surveys and Institutional Review Board (IRB) documentation.

Study Participants (Trainees)

All trainees attending the one-day time management workshops in a public setting and taught by study trainers from February to May 2009 were invited to participate in the study. To acknowledge study participation, each trainee was asked to provide informed consent prior to completing the pre-workshop and post-workshop surveys. Additionally, trainees were asked to read an online informed consent statement and acknowledge their consent prior to complete the online portion of the study. Table 2.2 provides information about study participants in both the treatment and comparison conditions. This information includes participant age, gender, ethnicity, and years work experience.

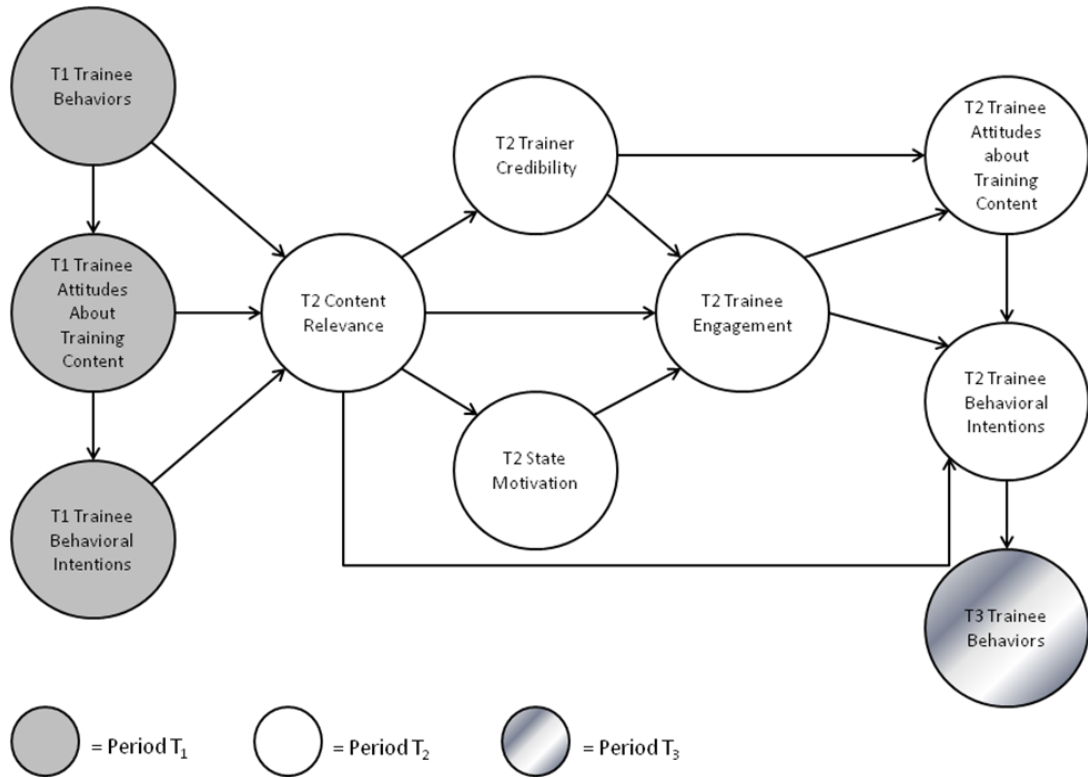
Table 2.2: *Trainees Participating in the Study*

	Condition	
	Treatment (<i>N</i> = 137)	Comparison (<i>N</i> = 110)
Gender		
Male	47.4%	55.5%
Female	52.6%	44.5%
Ethnicity		
Euroamerican	75.8%	73.5%
Latino/a	2.3%	7.8%
Asian American	3.1%	2%
African American	8.6%	5.9%
Other Foreign Born	1.6%	1%
Other	8.6%	9.8%
Age		
18-25	9.5%	7.3%
26-33	24.8%	20.9%
34-41	28.5%	21.8%
42-50	23.4%	26.4%
Over 50	13.9%	23.6%
Years Work Experience		
Less than 1	3.6%	19.3%
1 – 5	12.4%	36.7%
6 – 10	14.6%	25.7%
11 – 20	27.7%	11.9%
Over 20	41.6%	6.4%

Design

The study asked trainees attending TimeWise time management training sessions given by TimeWise trainers from either study group to complete three surveys, one each at one of three time periods (see Figure 2.1). The following section discusses each of the three periods and explains the constructs measured in each period.

Figure 2.1: *Illustration of Trainee Survey Time Periods*



Time Period One

The first period (T₁) occurred prior to the commencement of training. Upon arrival at the time management session, trainees were provided the letter of consent that outlined the study and were asked for their willingness to participate. The consent letter, which was approved as part of the IRB process, explained the purpose of the study and the role they were asked to play. It further explained that participation in the study was completely voluntary and that they could chose at any point to discontinue their involvement. For those who elected to participated in the study, the T₁ assessment focused on their attitudes about the training content, intended behaviors regarding using the recommendations taught in the course, and their current time management behaviors (see Appendix C).

Time Period Two

The second period (T₂) occurred immediately following the completion of the training, just prior to trainees leaving the session. This post-training assessment asked participants to provide information about content relevance, state motivation, trainer

credibility, engagement in the course, attitudes about the training content, and behavioral intentions regarding the use of the time management system taught in the workshop (see Appendix C).

Time Period Three

The third period (T₃) occurred approximately 21 days following training and measure trainee behaviors regarding the use of the time management system taught in the workshop (Appendix C). The researcher selected 21 days for T₃ because TimeWise encourages trainees to practice the time management behaviors taught in the workshop for 21 days as the trainees work to form good time management habits.

Measures

The study measured both the predictor variables and the criterion variable using interval level self-report scale measures. Trainees completed these measures as a means of communicating their perceptions of the training content, their engagement in the instruction, and both their intended and actual behaviors.

Instructional communication theory and research has been dominated by self reports as the primary methodological perspective. In discussing instructional and developmental theory and research Waldeck, et al. (2001) examine the state of the art in instructional communication. After explaining the various theories employed in instructional communication research, the authors categorize 186 articles into six different research categories. In discussing the studies, it is apparent that the primary method used in instructional communication research is self-report cross-sectional surveys. Studies that employ this approach use either teachers or students to report about their learning, apprehension, question asking, etc. The use of self reports is also supported by Friedrich (1987) and Richmond, Lane, and McCroskey (2006). Therefore, the use of self reports was used to test the eight hypotheses and answer the three research questions.

The following sections provide an explanation of the scales that the researcher used to assess trainee perceptions of content relevance, state motivation, trainee engagement, trainer credibility, trainee attitudes about training content, trainee behavioral intentions, and trainee time management behaviors. For each scale, the instrument is described as well as the timing of the instrument. Appendix A contains an overview of

surveys to be completed prior to training (pre-test), immediately following the completion of training (immediate post-test), and 21 days after the completion of training (follow-up post-test).

Content Relevance

Frymier and Shulman (1995) developed a 12-item instrument to measure students' reports of their teachers' use of relevance strategies in the classroom. Participants are asked to indicate on a Likert scale (1 = Never to 5 = Very Often) how frequently their teacher performs behaviors including the use of examples and exercises. The current study used a modified version of this instrument to measure content relevance. The modifications are two-fold. First, six additional statements have been added. Second, the wording of the original 12 statements was modified slightly. This modification was designed to ensure that the concerns uncovered in the literature review regarding the primary focus on teacher communication behaviors while diminishing the need to assess message content relevance were appropriately addressed. Thus, the additional six statements are designed to assess the value trainees place on the content itself based on message content relevance. As with the original instrument, the additional items are assessed using a five point Likert scale (0 = Strongly Disagree to 4 = Strongly Agree). The added statements cover items such as, "the course content will help me to satisfy personal needs," and "the course content will help me to satisfy my personal goals." These were derived directly from Keller's work.

Changes to the original instrument were intended to better meet the needs of a professional development training audience. For example, "gives assignments that involve the application of the content to my career interests" was modified to "used workshop exercises that involve the application of the content to my career interests." The statement regarding the fairness of the course content/subject matter was deleted as the researcher contends that trainees would have difficulty answering this question. In the training context, grades are not provided nor do trainers typically discipline participants; therefore, the term "fairness" would be difficult for trainees to evaluate and may cause data collection problems. Table 2.3 provides the factor analysis for 18-item instrument. As indicated, the instrument has three components. Components one and three are from the original instrument. They represent teacher communication

characteristics and teacher use of examples respectively. The second component represents the six statements the researcher added to the instrument. This component represents message-relevance. For the current study, composite reliability using Cronbach's coefficient alpha was .921 for the complete 18-item instrument.

Table 2.3: *Factor Structure with Varimax Rotation for New 18-item Content Relevance Scale*

	Component		
	1	2	3
Used other trainee experiences to demonstrate or introduce a concept.	.718	.086	.166
Linked content to other areas of interest.	.717	.282	.203
Asked me to apply content to my own interests.	.712	.294	.180
Used current events to apply a topic.	.710	.098	.103
Used discussion to help me understand the relevance of a topic.	.666	.224	.199
Helped me to understand the importance of the content.	.623	.323	.151
Used workshop exercises that involve the application of the content to my career interests.	.585	.265	.315
Explicitly stated how the materials relate to my career goals or my life in general.	.551	.197	.494
Used own experiences to introduce or demonstrate a concept.	.534	.067	.252
The course content will help me to satisfy my personal goals.	.271	.829	.074
The course content is valuable to me.	.189	.824	.150
The course content will help me to satisfy my career goals.	.278	.796	.110
The course content is important.	.085	.759	.204
The course content will help me to satisfy my personal needs.	.276	.718	.176
The course content is of interest to me.	.138	.707	.328
Used examples to make the content relevant to me.	.222	.262	.791
Provided explanations that make the content relevant to me.	.338	.215	.776
Used exercises or explanations that demonstrate the importance of the content.	.284	.183	.717

State Motivation

Derived from Christophel's (1990) motivation research, the state motivation scale uses a set of 12 bi-polar adjective pairings which respondents score from 1 to 7. Bi-polar pairs include "motivated" and "unmotivated," "fascinated" and "not fascinated," and "excited" and "not excited." For this study, one semantic differential pairing was not used: "don't want to study" to "want to study." In the context of the current study, trainees were not provided assignments prior to, during, or after training that would require them to study. Trainees answered the state motivation survey during T₂ (see Appendix C). Cronbach's coefficient alpha for state motivation in the current study was .902.

Trainee Engagement

Henning (2007) assessed the influence of student engagement on self-reported student cognitive learning. In his study, he operationalized student engagement using an 18-item instrument that focused on five constructs: skills, attendance, preparation, out-of-class contact, and in-class participation (1 = never and 5 = very often). For the present study, only two of these constructs, skills and in-class participation, are applicable. TimeWise's training program is one-day in length; therefore, attendance is not a viable measure. Additionally, there are no preparation requirements, nor does the one-day event allow for any out-of-class contact with the trainer. The researcher modified wording for both the skills and in-class attendance construct questions to better align with trainees participating in a professional development session (e.g., the term "class" was changed to "workshop"). Cronbach's coefficient alpha for the trainee engagement instrument in the current study was .816.

Trainer Credibility

The measure of source credibility was created by McCroskey and Young (1981). The instrument requires respondents to identify their impression of their teacher in the areas of competence and character. Respondents were asked to select from 1 to 7 for each of the 12-item bi-polar adjective pairings presented. To do so, the respondents assessed pairings such as "stupid" to "bright" or "sinful" to "virtuous." Cronbach's coefficient alpha for the trainer credibility instrument in the current study was .897.

Trainee Attitudes about the Training Content

To measure trainee attitudes about the training content, the study used a modified version of McCroskey's (1994) Affective Learning Measure. The original instrument asks respondents to identify their feelings about a given class in one of four areas. The first area addresses the content and subject matter of the course. The second, focuses on the likelihood to take another course on a related subject. The third and fourth deal with the behaviors recommended in the course and willingness to actually attempt to enhance in the behaviors in a *real life situation* respectively. In measuring the trainees' attitudes about the training content, the researcher used the first three parts of the instrument at both T₁ and T₃ (see Appendix B and Appendix C). The fourth part, which was used to measure trainee behavioral intentions, is discussed in the next paragraph. Cronbach's coefficient alpha for the trainee attitude about training content instrument in the current study was .878 at T₁ and .915 at T₂. Respondents provided responses ranging from one to seven.

Trainee Intended Behaviors

To assess trainee behavioral intentions, the researcher asked study participants to complete a modified version of McCroskey's (1994) Affective Learning Measure. To measure trainee behavioral intentions, trainees responded to the statements associated with their willingness to attempt the behaviors recommended in the workshop using a scale of 1 to 7. In measuring the trainees' behavioral intentions, the same measure was used at both T₁ and T₂ (see Appendix B and Appendix C). Cronbach's coefficient alpha for the trainee engagement instrument in the current study was .894 at T₁ and .875 at T₃.

Trainee Time Management Behaviors

Measuring trainee time management behaviors was done using an instrument provided to the researcher by TimeWise's. The 30-item survey was developed by TimeWise to measure time management behaviors of training participants. Participants are asked to indicate on a Likert scale (1 = Strongly Disagree to 7 = Strongly Agree) how well they are exhibiting time management behaviors or experiencing results based on their application of time management principles. An example from the instrument of skill application includes, "I take time to plan for the future," while an example of time management outcomes includes, "I am achieving meaningful goals." Trainees completed

the TimeWise survey at both T₁ and T₃ (see Appendix B and Appendix C). Cronbach's coefficient alpha for the trainee time management behaviors in the current study was .917 at T₁ and .925 at T₃.

Table 2.4: *Factor Structure with Varimax Rotation for Trainee Time Management Behaviors Scale (TimeWise Instrument)*

	Component					
	1	2	3	4	5	6
I feel I am on top of things because of careful preparation and planning.	.793	.123	.214	.255	-.010	.041
My planning system works well.	.792	.168	.237	.261	.039	.073
I begin each day with a planning session.	.776	.161	-.060	.000	.036	-.170
I effectively use an integrated planning system (e.g., paper planner, software, and/or handheld device).	.687	.189	.072	-.060	.040	.227
I review progress on my goals and projects at least weekly.	.681	.101	-.056	.096	.127	-.130
I have an effective method for capturing key information throughout the day.	.670	-.029	.199	.271	.128	.037
My goals are written down with definite completion dates.	.653	.438	-.053	.030	.090	-.096
I am organized and can find needed information quickly.	.636	.059	.096	.461	-.043	.199
I begin each week with a clear plan to achieve my highest priorities.	.626	.276	.105	-.041	.185	.071
I am able to keep track of my tasks and appointments without letting things fall through the cracks.	.573	.195	.193	.390	.025	.181
I prioritize my tasks so the most important aspects of my life get the most attention.	.559	.399	.233	-.003	.285	.074
I consistently achieve my work goals.	.415	.241	.198	.101	.282	.254
I have clear sense of direction and purpose in my life.	.115	.776	.147	.157	-.052	.199
I take time to plan for the future.	.309	.748	.000	.185	.056	.100
I am achieving meaningful personal goals.	.233	.666	.208	.168	.306	.055
I take time to educate myself and expand my knowledge and skills.	.175	.490	.154	.133	.184	-.063
I have a written statement of personal values.	.439	.441	-.022	.016	-.062	-.405
I feel I am always addressing issues that are important to others, but not to me.*	.043	.169	.723	-.034	.045	.083
I spend much of my time on activities that demand my immediate attention but have little relevance to my top priorities.*	.124	.113	.681	-.013	.026	-.188
I spend much of my time on important activities that demand my attention such as crises, pressing problems, and deadline-driven projects.*	.031	.008	.672	.217	-.223	-.100
I feel I am always “putting out fires” and working in crises mode.*	.242	.076	.662	.054	.167	-.31
I take time to keep myself physically fit and healthy.	.018	.320	-.056	.734	.047	-.154
I have an effective filing system for paper and electronic information.	.454	.072	.056	.627	-.014	.212
I have balance between my personal and professional life.	.178	.192	.374	.536	.372	-.014
I quickly identify activities that are not in harmony with my values.	.239	.252	.095	.338	.275	.060
I spend much of my time on busywork, junk mail, excessive TV, Internet trivia, games, etc.*	.047	.135	.120	-.054	-.105	.026
I feel I waste a lot of time.*	.230	-.014	.151	.185	.084	-.009
I take time to build good relationships with my co-workers.	.028	.128	-.098	.015	.818	.061
I spend much of my times on activities that are important but not urgent.	.350	.125	.161	.209	.493	-.170
I have professional goals that are tied to my organization’s most important priorities.	.127	.152	-.153	.026	.006	.730

* Reverse coded for scoring

Protocol

Upon arrival trainee participants received the IRB approved letter of consent and a recruitment message inviting them to participate in the study. The message read:

Dear workshop participant:

Today you are attending a time management workshop designed to help you enhance your time management skills and ultimately achieve what matters most to you. Patrick Leddin, a doctoral candidate from the College of Communications & Information Studies at the University of Kentucky, is conducting a study reviewed by the University of Kentucky's Institutional Review Board (IRB # 09-0069-P4S) investigating trainer communication behaviors that lead to successful application of workshop recommended behaviors. I would like you to participate in the study by completing the attached survey prior to training. You will also be invited to complete a survey at the end of today's session and a third survey 21 days from today. As a thank you for your participation, you will receive a small gift from TimeWise after submission of the third survey.

Informed consent was obtained and participants were advised that they would receive a \$5 gift card for study participation. Participants were also asked to provide their email address so that the researcher could contact them to participate in the post-workshop survey 21 days after completion of training. They were informed that the researcher would analyze the data at the aggregate level only and the information collected would remain confidential, available only to the researcher and dissertation advisor.

For those individuals consenting to participate in the study, copies of the pre-workshop survey were completed prior to the beginning of training and placed in a FedEx envelope. Immediately following training, trainees completed the post-workshops surveys and placed them in the return envelope. The envelope was then returned to the researcher for processing.

Twenty-one days after training, the researcher sent an email to study participants asking them to complete the online survey. A reminder email was sent within five days for those participants who had yet to complete the online survey. Shortly thereafter, all participants received an email with a link to a \$5 gift card regardless of their completing or not completing the on-line assessment.

Participants, who elected to complete the online survey, were again asked to confirm their willingness to participate in the study. To do, so they were presented with the following information:

Patrick Leddin, a student in the University of Kentucky Department of Communication, invites you to continue participating in the research study focused on the importance of content relevance to participant learning. Your participation in the study began approximately three weeks ago when taking TimeWise's time management workshop. If you volunteer to take part in this study, you will be one of about 300 TimeWise clients to do so.

If you agree to continue participating in the research study, you will be asked to complete an online survey about your experiences applying the time management behaviors taught in the TimeWise workshop. The survey will take 5 to 10 minutes to complete.

While you will not receive any direct benefit for participating, your participation may help to advance our understanding of training effectiveness.

Your responses to this survey are anonymous, meaning that the researchers will not be able to link your survey responses to you. The survey software does not collect identifying information about you or your computer. We plan to publish the results of this study, but will not include any information that would identify you.

Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You may choose to not answer a question or skip any part of the study. Simply click "Next" at the bottom of the survey page to move to the next question.

If you have questions about this research study, you can contact Patrick Leddin at 502-240-0625. If you have any questions about your rights as a volunteer in this research, contact the staff in the Office of Research Integrity at the University of Kentucky at 859-257-9428 or toll free at 1-866-400-9428.

By clicking on the link below, you are consenting to participate in this research survey. If you do not wish to participate, click the "x" in the top corner of your browser to exit.

Study Analysis

The researcher analyzed the data using SPSS 16.0. Descriptive statistics were calculated to generate means and standard deviations of all variables. All items that needed to be reverse-coded were so coded and composite scales were then created. Within and between group comparisons were made to test the hypotheses and answer the three research questions. The following chapter provides analysis details and identifies whether or not each hypothesis was supported.

Chapter 3: Results

In order to test the research hypotheses associated with the Content Relevance Centric Theory (CRCT), several analyses were conducted. Each analysis was appropriate for to the hypothesis tested. The researcher used the Statistical Package for Social Sciences (SPSS) v16.0 to analyze data. Specifically, to test the Content Relevance Centric Theory, regression analyses and t-tests, both independent-samples and paired-samples, were performed to examine each of the hypotheses and research questions. Table 3.1 provides a descriptive table for the composite variables for treatment and comparison groups both combined and separate at all three time periods. The table includes the number of respondents, the range of respondent provided values, the mean score, and the standard deviation for each composite variable. Table 3.4 provides the correlation matrix for all composite variables.

Table 3.1: *Descriptive Table for All Composite Variables*

	Treatment Condition			Comparison Condition			Both Conditions		
	N	M	SD	N	M	SD	N	M	SD
Trainee Attitudes about Training Content									
Time One	137	5.75	.911	110	5.65	.919	247	5.71	.914
Time Two	137	6.25	.788	108	6.03	1.005	245	6.15	.896
Trainee Behavioral Intentions									
Time One	137	6.13	.952	110	6.11	.907	247	6.12	.931
Time Two	137	6.40	.801	110	6.10	1.028	247	6.26	.921
Trainee Time Management Behaviors									
Time One	137	3.99	.829	110	4.05	.795	247	4.02	.813
Time Three	53	5.10	.758	45	5.02	.703	98	5.05	.707
Trainee Engagement									
Time Two	134	2.75	.667	109	2.68	.610	243	2.72	.643
Trainee State Motivation									
Time Two	136	3.80	.322	110	3.87	.309	246	3.83	.318
Trainer Credibility									
Time Two	135	6.56	.640	107	6.32	.800	242	6.46	.725
Content Relevance									
Time Two	137	3.47	.404	110	3.42	.464	247	3.45	.443

Table 3.2: *Correlation Matrix for All Composite Variables*

	1	2	3	4	5	6	7	8	9	10
1 Trainee Attitudes about Content (T ₁)	1									
2 Trainee Behavioral Intentions (T ₁)	.661**	1								
3 Trainee Time Management Behaviors (T ₁)	-.008	.023	1							
4 Trainee Attitudes about Content (T ₂)	.478**	.367**	-.025	1						
5 Trainee Behavioral Intentions (T ₂)	.396**	.341**	-.050	.665**	1					
6 Trainee Engagement (T ₂)	.132*	.124	.021	.203**	.251**	1				
7 Trainee State Motivation (T ₂)	.408**	.257**	-.066	.535**	.499**	.322**	1			
8 Trainer Credibility (T ₂)	.335**	.298**	.005	.626**	.624**	.204**	.483**	1		
9 Content Relevance (T ₂)	.383**	.338**	.011	.487**	.448**	.411**	.554**	.444**	1	
10 Trainee Time Management Behaviors (T ₃)	.240*	.218*	.493**	.292**	.156	.238*	.304**	.256*	.178	1

* $p < .05$

** $p < .01$

Hypothesis One

The first hypothesis predicted that content relevance would significantly predict trainee behavioral intentions. This hypothesis was supported. A linear regression was conducted to test this hypothesis. Content relevance ($t = 7.825, p < .001; \beta = .448$) predicted trainee behavioral intentions immediately following the completion of training [$F(1, 244) = 61.238, p < .001; \text{Adjusted } R^2 = .197$] (see Figure 3.1).

Figure 3.1: *Content Relevance on Trainee Behavioral Intentions*



Hypothesis Two

The second hypothesis predicted that content relevance, as mediated by trainer credibility, trainee state motivation, and trainee engagement, would significantly predict trainee attitudes about training content. This hypothesis was partially supported. To test hypothesis two the researcher first conducted a regression analysis to test if each hypothesis variable was a significant predictor of each related variable as articulated in the model. A Preacher and Hayes (2008) assessment was then conducted to compare indirect effects.

Content relevance ($t = 8.675, p < .001; \beta = .487$) predicted trainee attitudes about training content immediately following the completion of training [$F(1, 242) = 75.255, p < .000; \text{Adjusted } R^2 = .234$]. Content relevance ($t = 7.654, p < .0001; \beta = .444$) predicted trainee perception of trainer credibility immediately following the completion of training [$F(1, 239) = 58.587, p < .0001; \text{Adjusted } R^2 = .194$]. Trainer credibility ($t = 12.359, p < .0001; \beta = .626$) predicted trainee attitudes about training content immediately following the completion of training [$F(1, 237) = 152.755, p < .0001; \text{Adjusted } R^2 =$

.389]. Content relevance ($t = 6.989, p < .0001; \beta = .411$) predicted trainee engagement [$F(1, 240) = 48.848, p < .0001; \text{Adjusted } R^2 = .166$]. Trainee engagement ($t = 2.521, p = .112; \beta = .145$) did not predict trainee attitudes about the training content [$F(1, 237) = 9.413, p = .112; \text{Adjusted } R^2 = .012$]. Content relevance ($t = 1.131, p < .0001; \beta = .554$) predicted trainee state motivation [$F(1, 240) = 107.829, p < .0001; \text{Adjusted } R^2 = .305$]. Trainee state motivation ($t = 9.801, p < .0001; \beta = .535$) predicted trainee attitudes about training content [$F(1, 240) = 96.060, p < .0001; \text{Adjusted } R^2 = .283$]. Table 3.3 and 3.4 provide the results of regression.

Table 3.3: *Regression Models (Six Separate Regressions) to Test Hypothesis Two Mediation*

Predictor	Dependent Variable	B	SE	β	p	Adj R^2
Content Relevance	Content Attitudes	1.007	.116	.487	<.0001	.234
Content Relevance	Trainer Credibility	.745	.097	.444	<.0001	.194
Trainer Credibility	Content Attitudes	.770	.062	.626	<.0001	.389
Content Relevance	Trainee Engagement	.612	.088	.411	<.0001	.166
Trainee Engagement	Content Attitudes	.186	.090	.145	.112	.012
Content Relevance	State Motivation	1.131	.109	.554	<.0001	.305

Table 3.4: *Content Relevance, Trainer Credibility, Trainee State Motivation, and Trainee Engagement on Trainee Attitudes about Training Content*

Predictor	B	SE	B	P
Content Relevance	.364	.128	.176	.005
Trainer Credibility	.540	.069	.440	<.0001
Trainee State Motivation	.229	.061	.226	<.0001
Trainee Engagement	-.002	.074	-.015	.772

Note. Adj. $R^2 = .465$

The regression analysis provided partial support for the hypothesis, as trainee engagement did not significantly predict trainee attitudes about training content. The researcher conducted another regression analysis after removing trainee engagement from

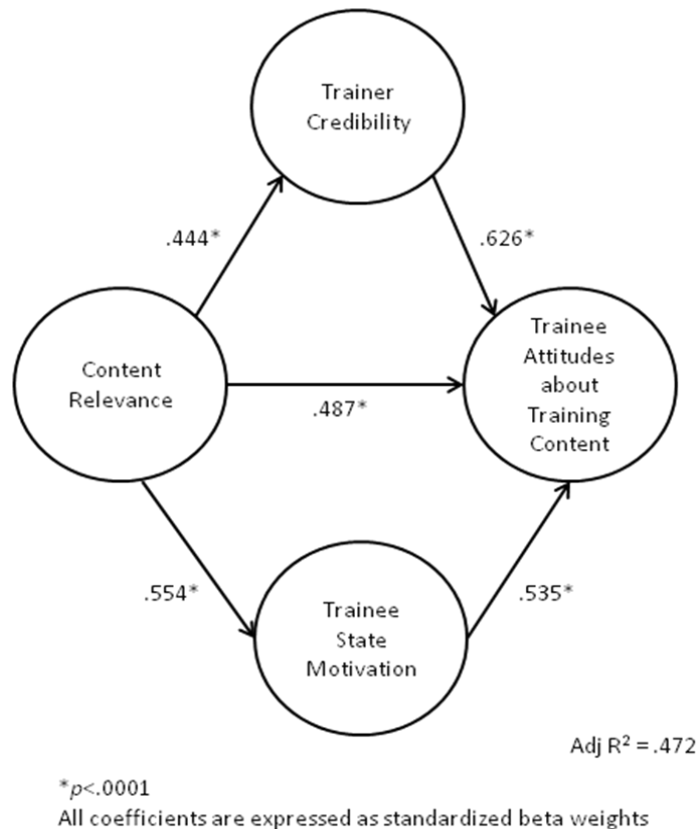
the model. To test for mediation, a Preacher and Hayes (2008) assessment and comparison of indirect effects in multiple mediator models was used. This analysis revealed the total mediation of trainer credibility and trainee state motivation is significant ($Z = 6.222$; $p < .001$). Table 3.5 provides the results of the regression analysis and Figure 3.2 serves as a graphical representation.

Table 3.5: *Revised Hypothesis Two Regression Model Trainee Engagement Removed*

Predictor	B	SE	B	P
Content Relevance	.351	.120	.170	.004
Trainer Credibility	.543	.068	.441	<.0001
Trainee State Motivation	.228	.060	.226	<.0001

Note. Adj. $R^2 = .472$

Figure 3.2: *Content Relevance Mediated by Trainer Credibility and Trainee State Motivation on Trainee Attitudes about Training Content*



Hypothesis Three

The third hypothesis predicted that content relevance, as mediated by trainer credibility, trainee state motivation, and trainee engagement, would significantly predict trainee behavioral intentions. This hypothesis was supported. As with testing hypothesis two, to test hypothesis three the researcher first conducted a regression analysis to test if each hypothesis variable was a significant predictor of each related variable as depicted in the model. A Preacher and Hayes (2008) assessment was then conducted to compare indirect effects.

Content relevance ($t = 7.825, p < .0001; \beta = .448$) predicted trainee behavior intentions [$F(1, 244) = 61.238, p < .0001; \text{Adjusted } R^2 = .197$]. Content relevance ($t = 7.654, p < .0001; \beta = .444$) predicted trainee perception of trainer credibility immediately following training ($F(1, 239) = 58.587, p < .0001; \text{Adjusted } R^2 = .194$). Trainer credibility ($t = 12.359, p < .0001; \beta = .626$) predicted behavioral intentions [$F(1, 239) = 152.590, p < .0001; \text{Adjusted } R^2 = .387$]. Content relevance ($t = 6.989, p < .0001; \beta = .411$) predicted trainee engagement [$F(1, 240) = 48.848, p < .0001; \text{Adjusted } R^2 = .166$]. Trainee engagement ($t = 4.005, p < .0001; \beta = .251$) predicted trainee behavioral intentions [$F(1, 239) = 4.005, p < .0001; \text{Adjusted } R^2 = .059$]. Content relevance [$t = 1.131, p < .0001; \beta = .554$] predicted trainee state motivation [$F(1, 240) = 107.829, p < .0001; \text{Adjusted } R^2 = .305$]. Trainee state motivation ($t = 8.960, p < .0001; \beta = .499$) predicted trainee behavioral intentions [$F(1, 242) = 80.284, p < .0001; \text{Adjusted } R^2 = .246$]. Tables 3.10 and 3.11 provide the regression results. To test for mediation, a Preacher and Hayes (2008) assessment and comparison of indirect effects in multiple mediator models was used. This analysis revealed the total mediation of trainer credibility, trainee state motivation, and trainee attitudes about training content is significant ($Z = 6.376; p < .001$). Figure 3.3 provides a graphical representation of the results.

Table 3.6: *Regression Models (Seven Separate Regressions) to Test Hypothesis Three Mediation*

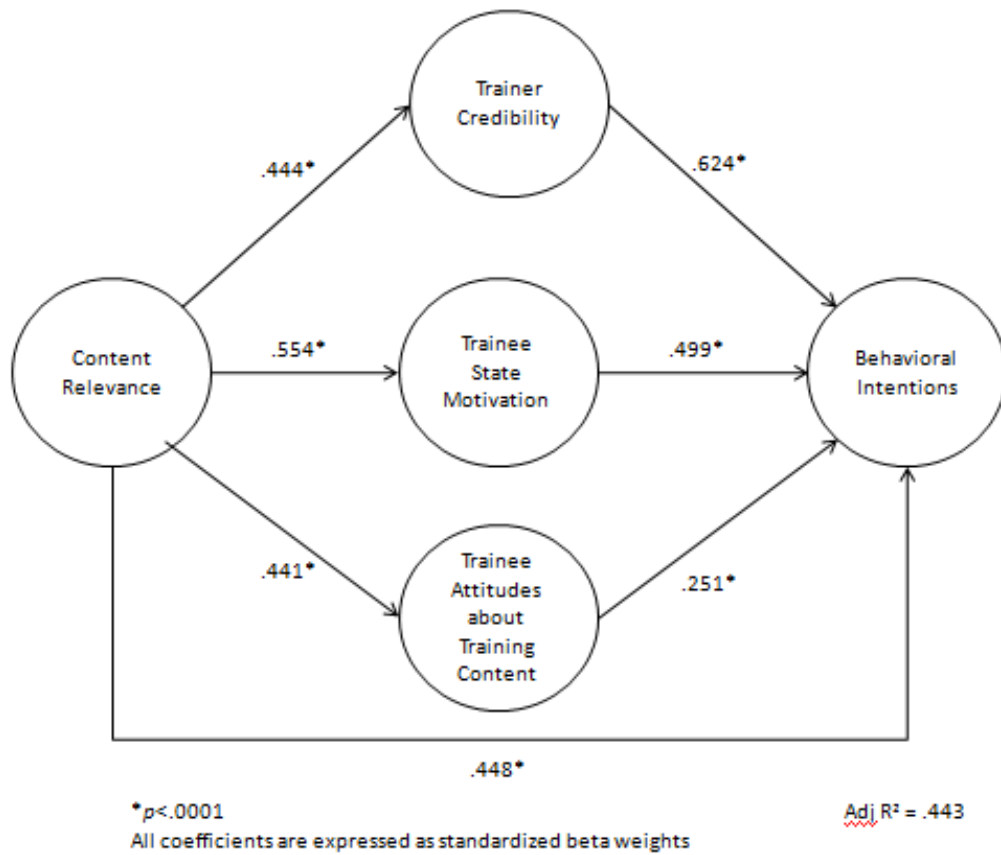
Predictor	Dependent Variable	B	SE	β	P	Adj R^2
Content Relevance	Behavioral Intentions	.952	.122	.448	<.0001	.197
Content Relevance	Trainer Credibility	.754	.097	.444	<.0001	.194
Trainer Credibility	Behavioral Intentions	.788	.064	.624	<.0001	.387
Content Relevance	Trainee Engagement	.612	.088	.441	<.0001	.166
Trainee Engagement	Behavioral Intentions	.357	.089	.251	<.0001	.059
Content Relevance	State Motivation	1.131	.109	.554	<.0001	.305
State Motivation	Behavioral Intentions	.514	.057	.499	<.0001	.246

Table 3.7: *Regression Model of Content Relevance, Trainer Credibility, Trainee State Motivation, and Trainee Engagement on Trainee Attitudes about Training Content*

Predictor	B	SE	B	P
Content Relevance	.298	.133	.140	.026
Trainer Credibility	.583	.072	.462	<.0001
Trainee State Motivation	.189	.064	.182	.004
Trainee Engagement	.064	.077	.045	.407

Note. Adj. $R^2 = .443$

Figure 3.3: *Content Relevance Mediated by Trainer Credibility, Trainee Engagement, and Trainee State Motivation on Trainee Behavioral Intentions*



Hypothesis Four

The fourth hypothesis asserted that an increase in trainee attitudes about training content would significantly predicted an increase in trainee behavioral intentions. A linear regression was conducted to test the hypothesis. Trainee attitudes about training content ($t = 6.735, p < .001; \beta = .396$) did significantly predict trainee behavioral intentions [$F(1, 244) = 45.364, p < .001; \text{Adjusted } R^2 = .153$]. This hypothesis was supported and the results are depicted in Figure 3.4.

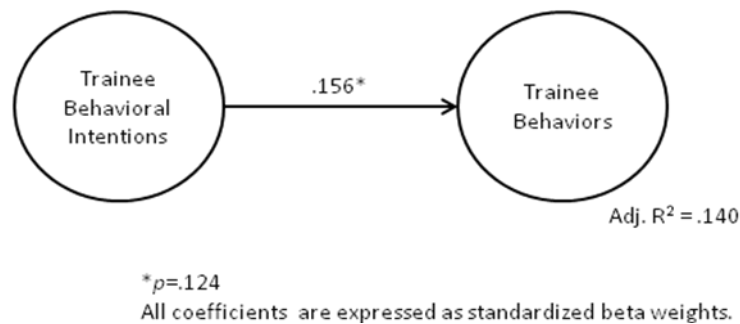
Figure 3.4: *Trainee Attitudes about Training Content on Trainee Behavioral Intentions*



Hypothesis Five

This hypothesis contended that an increase in trainee behavioral intentions would significantly predict an increase in trainee behaviors. A linear regression was conducted to test this hypothesis. Trainee behavioral intentions at the conclusion of training ($t = 1.551, p = .124; \beta = .156$) did not predict trainee behaviors 21 days after completion of training [$F(1, 96) = 2.406, p = .124; \text{Adjusted } R^2 = .014$]. Therefore hypothesis five was not supported.

Figure 3.5: *Trainee Behavioral Intentions on Trainee Time Management Behaviors*



Hypothesis Six

The sixth hypothesis predicted that participants in the treatment group would experience significantly higher trainee attitudes about training content than those in the comparison group. An independent samples t -test was conducted to compare trainee attitudes about training content between the two groups. There was not a significant difference in the scores for the group where the instructor received training on content relevance ($M=6.246, SD=.788$) and the group where the instructor did not receive training on content relevance ($M=6.031, SD=1.009$) conditions [$t(242)=1.82, p = 0.071$].

Although the means were slightly higher in the treatment group than the comparison group, the differences were not statistically significant. Therefore, this hypothesis was not supported.

Hypothesis Seven

The seventh hypothesis predicted that trainees in the treatment group would report significantly higher behavioral intentions than those in the comparison group. An independent-samples *t*-test was conducted to compare trainee intended behaviors between the participants in the two conditions. There was significant difference in the scores for the group where the trainer received training on content relevance ($M=6.396$, $SD=.801$) and the group where the trainer did not receive training on content relevance ($M=6.099$, $SD=1.032$) [$t(196.20)=2.473$, $p = 0.014$]. This hypothesis was supported.

Hypothesis Eight

The ninth and final hypothesis predicted that trainees in the treatment group would report significantly higher time management behavior application 21 days after training than those in the comparison group. An independent-samples *t*-test was conducted to test this hypothesis. There was not a significant difference in the scores for the group where the trainer received training on content relevance ($M=5.065$, $SD=.719$) and the group where the trainer did not receive training on content relevance ($M=5.041$, $SD=.703$) [$t(96)=-.405$, $p = 0.870$]. This hypothesis was not supported.

Research Question One

The first research question focused on whether or not trainee attitudes about training content assessed prior to the beginning of the training course increased immediately following the course as a function of the training. A paired-samples *t*-test was conducted to compare trainee attitudes about training content pre-training and post training. There was a significant difference in the scores for pre-training trainee attitudes about training content ($M=5.705$, $SD=.919$) and post-training trainee attitudes about training content ($M=6.151$, $SD=.896$) [$t(243)=-7.531$, $p<.001$].

Research Question Two

The second research question focused on comparing behavioral intentions pre-training to those post-training to assess if behavioral intentions increased as a function of the training workshop. A paired-samples *t*-test was conducted to compare trainee

behavioral intentions pre-training and post training (immediately following course completion). There was a significant difference in the scores for pre-training trainee behavioral intentions ($M=6.117$, $SD=.931$) and post-training trainee behavioral intentions ($M=6.264$, $SD=.921$) [$t(245)=-2.174$, $p<.001$].

Research Question Three

The third research question considered whether trainee time management behaviors changed as function of the training. A paired-samples t -test was conducted to compare trainee time management behaviors pre- and post-training. There was a significant difference in the scores for pre-training time management behaviors ($M=4.050$, $SD=.829$) and post-training trainee time management behaviors ($M=5.053$, $SD=.708$) [$t(97)=-12.715$, $p<.001$].

Where this chapter provided the results of the study, the following chapter contains a discussion of what the results mean from a number of perspectives. The chapter includes an interpretation of the results and outlines implications for TimeWise, other learning and development companies, trainers, trainees, and future instructional communication scholars. The chapter ends with recommendations for future directions of study.

Chapter 4: Discussion

Over the past 30 years, instructional communication scholars have collectively accomplished much to advance the understanding of the role communication plays in learning. In so doing, the corpus of research has advanced from the initial identification and definition of instructional communication constructs to more advanced programs of study. As previously highlighted, this evolution in research is significant, but not without its concerns. Specifically, researchers have relied too heavily on variable-analytic and atheoretical approaches, failed to address a wide range of learning contexts, conducted few studies that tie research to learning outcomes, and contributed to an unclear use of key instructional communication terms. Additionally, two significant gaps exist in the instructional communication literature as it relates to the current study. First, past researchers failed to effectively manipulate the content relevance construct. Second, a discrepancy exists between how content relevance is conceptualized and operationalized.

The present chapter builds on the findings presented in the previous chapter and provides both interpretation and analysis of the results. It also explains limitations faced by the current study and recommends directions for future research.

Interpretation and Analysis of Results

This study explored two groups of hypotheses to test predictions regarding content relevance's ability to predict various learning outcomes and answered three research questions. Group one hypotheses were designed to test the claims associated with the Content Relevance Centric Theory. Group two hypotheses focused on the ability to manipulate the content relevance variable between two groups of trainers. In addition, the study worked to answer three research questions regarding the effectiveness of the TimeWise time management training workshop. The following section provides interpretation and analysis of the results in each group of hypotheses and the answers uncovered in responding to the study's research questions. Of particular interest are the implications and how instructional communication researchers, learning and development companies, trainers, trainees, and trainee managers can leverage the implications to positively influence future learning outcomes and increase their Return on Investment (ROI).

Group One Hypotheses

The first group of hypotheses tested five propositions associated with how well content relevance predicts learning outcomes, as both a standalone variable and when mediated by other constructs in the model. As expected at the outset of the study, content relevance matters. It emerged as a significant predictor of behavioral intentions, explaining approximately 20 percent of the variance. This predictive ability increased dramatically when mediated by trainer credibility and trainee state motivation as they collectively accounted for 47 of the variability in trainee attitudes about the training content. Furthermore, efforts made to move away from the consideration of content relevance as solely a list of teacher communication behaviors to also include message content relevance, afforded the researcher the opportunity to not only generate and utilize an instrument that captured Keller's broader definition of content relevance but provided new insights into the value of message content relevance, which instructional communication scholars had historically not studied.

The researcher was surprised by two findings in the study. First, behavioral intentions failed to predict reported trainee time management behaviors 21 days after the completion of training. Although trainee attitudes about training content were found to be significant predictors accounting for slightly more than 15 percent of the variability in the trainee behavioral intentions, trainee behavioral intentions were not found to be significant predictors of trainee behaviors. Second, trainee engagement failed to predict trainee attitudes about the training content. This was not anticipated as the researcher had expected that a trainee who asks questions, participates in workshop activities, and takes notes throughout the day, would express more positive feelings about the course. Regardless of initial expectation, this was not supported in the study.

Group Two Hypotheses

The second group of hypotheses involved comparing the treatment group with the comparison group to see if the researcher was able to manipulate the content relevance variable and, if so manipulated, whether or not trainees in the treatment group reported higher attitudes about the training content, behavioral intentions, and time management behaviors. Hypotheses six, seven, and eight involved comparing variables between the two groups, while six focused on trainee attitudes about the training content, seven and

eight considered behavioral intentions, and time management behaviors respectively. Hypothesis seven was supported, but the other two were not. These *mixed* results do not speak well for the researcher's ability to manipulate the content relevance variable and/or the ability of trainers in the treatment group to distinguish themselves in regards to content relevance from their colleagues. These results do little to settle the issue of content relevance manipulation. Additionally, the results cause one to wonder if trainers in the comparison group had already addressed content relevance on their own. Regardless of settling the mitigation issue, the results do allow for the identification of implications that future researchers should take into consideration as they go about their research work. These implications will be addressed shortly.

Research Questions

The three research questions focused on the effectiveness of the training workshop to improve trainee reported time management behaviors, attitudes about training content, and behavioral intentions as a function of the training workshop. All three variables improved significantly when comparing pre-workshops scores with post-workshop scores. In short, the training works. All three measurements improved as a function of the course and this is clearly important to those who are considering attending future workshop and TimeWise itself. It is also of importance to TimeWise as they look to market and sell future course offerings.

The findings associated with the hypotheses and research questions led to the identification of five implications. These implications begin with the narrowest of concerns, which are pragmatic issues that directly impact TimeWise's ability to generate future business, and extend to broader implications that address learning in general and the efforts of future instructional communication researchers. The first implication involves the Content Relevance Centric Theory's ability to predict learning outcomes that will lead to revenue growth for TimeWise. The second implication addresses how the results imply that training companies must view a workshop not as an event, but as a process. The third implication indicates that the successful use of the revised content relevance instrument provides future researchers a *new* tool to assess the variable. The fourth implication demonstrates that study findings indicate the need to reconceptualize the theoretical model to present a framework that can be utilized by future instructional

communication scholars. Lastly, the results imply the need for future researchers to further consider the challenges associated with content relevance manipulation as they design their studies. The following provides additional details about each implication.

Predicting Learning Outcomes for Revenue Growth

The first implication involves the ability of the Content Relevance Centric Theory to predict learning outcomes that will generate revenue for TimeWise and similar business with training offerings. TimeWise, and other training and development companies will place value in the ability of the proposed theoretical model to predict both trainee attitudes about training content and trainee behavioral intentions. As a for-profit company that relies on extending its reach into organizations for its survival, the ability of the workshop to influence a trainee's attitude about the training content and his or her intent to put into place the behaviors taught in the workshop is beneficial for three reasons. First, trainees, who express higher, positive attitudes about training content may be more likely to attend future TimeWise workshops. Second, they may be inclined to recommend that others enroll in the time management workshop. Lastly, they may take the opportunity to become certified to teach a number TimeWise workshops.

In addition to the one-day time management training program studied in the current project, TimeWise, as well as its competitors, delivers a wide range of other courses in topics such as leadership, business writing, presentations, project management, and strategic execution. Undoubtedly, a trainee who attends the time management workshop and then elects to take an additional TimeWise course in the future, is of significant value to TimeWise. Arguably, it is easier and more cost effective to maintain an existing customer than it is to acquire a new one. In addition to attending future TimeWise workshops, a trainee who expresses a positive attitude about the time management workshop and his or her intent to employ the behaviors taught in the course, is likely to tell others to attend the training themselves. It is common for an organization to send an employee to the training to *test the waters* in an effort to see if the organization should consider sending more people to the training or bring the TimeWise program into the organization to teach the content. A positive response to either of these options equates to more revenue for TimeWise.

TimeWise clients can choose to earn certification in time management and teach the course within their own organization. Clients, who embrace the certification option are lucrative to TimeWise. Not only does the trainee pay to attend the initial time management workshop, he or she then pays to attend a certification program, gain expert coaching, co-facilitate a workshop, and purchase certification materials. Additionally, the organization that employs the certified trainer must pay a licensing fee and purchase materials for each future participant who attends a workshop taught by the certified facilitator. Each of these purchases has a sizeable cost associated with it. Table 4.1 shows an estimated value to TimeWise for each participant who attends the one-day time management workshop, elects to become certified, and then teaches the course to 100 people in her or his organization (TimeWise, 2009).

Table 4.1: *Value to TimeWise for Trainees Who Elect to Become Certified to Teach the Time Management Workshop*

	Revenue
Time Management Workshop Tuition	\$399.00
Time Management Certification Tuition	\$500.00
Facilitator Materials	\$2,000.00
Licensing Fee	\$500.00
Time Management Materials for 100 trainees	\$10,000.00
Total	\$13,399.00

Clearly, turning a one-day time management workshop trainee into a certified instructor, who is teaching the workshop several times per year within his or her organization, is of tremendous financial value to TimeWise. The benefit is compounded as it is not uncommon for a person certified in the time management workshop to become certified in multiple content areas. Currently, TimeWise reports that they have over 45,000 client facilitators (TimeWise, 2009). These results are obviously beneficial to TimeWise; however, generating more revenue for this organization is not the sole focus of the current study. The next implication further advances the discussion as it addresses

pre-workshop and post-workshop activities that apply both to TimeWise and other learning and development companies.

Workshop as a Process, not an Event

The second implication of the study's findings is the need for learning and development companies to look at a time management workshop or any short-term training course not as a one-day event, but as part of a learning process that begins prior to the trainee's arrival at the workshop and extends beyond the completion of the session. Broad and Newstrom (1992) discuss the importance of approaching training from a process perspective and highlight actions that managers, trainers, and trainees can take before, during, and following training to positively influence learning. The concepts outlined in their work are applied and extended by the current research to include the activities TimeWise, TimeWise trainers, trainees, and trainee managers can employ both prior to and upon completion of the time management workshop. These activities represent specific actions that each player can take to enhance learning outcomes and increase the ROI. The examples contained in Table 4.2 and discussed in the subsequent paragraphs are directly connected to the workshop that served as the focus of the study. They can be used by other learning and development professionals as a point of embarkation for identifying actions that will enhance their specific training interventions.

Table 4.2: *Potential Pre-workshop and Post-workshop Actions to Enhance Learning*

	TimeWise	TimeWise Trainer	Trainee	Trainee's Manager
Pre-Training	<p>Modify current pre-workshop letter</p> <p>Provide pre-workshop assignment</p>	<p>Distribute a personal letter</p> <p>Examine list of trainees</p>	<p>Define expectations</p> <p>Complete pre-workshop assignment</p>	<p>Set expectations</p> <p>Explain the benefits of the training</p>
Post-Training	<p>Provide a scoreboard</p> <p>Set-up alumni site for course graduates</p> <p>Administer assessments</p>	<p>Assign "homework"</p> <p>Send out a follow-up notes</p> <p>Solicit and share success stories</p>	<p>Write-up and share "key learnings"</p> <p>Teach co-worker(s)</p> <p>Track progress</p>	<p>Review weekly progress</p> <p>Host sharing session(s)</p> <p>Discuss application</p>

As depicted in the table above, a number of key actions can take place prior to the commencement of the training workshop. This study confirms that the credibility of the instructor is important and, because of this importance, one should not wait until the commencement of training to begin the establishment of the trainer's credibility. There are a number of efforts that TimeWise and the trainer can take prior to entering the confines of the workshop location to establish the trainer's credibility before the trainee sets foot in the classroom. Similar to other training companies, Timewise sends each trainee a letter prior to the workshop to provide logistical information (e.g., location, start / stop times, etc.). TimeWise could change the standard letter to include instructor biographical information including education, work experience, and years spent delivering the content. Most instructors participating in the current study have over 20 years work experience, 20 years with TimeWise, and 11 years teaching the time management workshop (see Table 2.1). Providing this type of information to participants prior to their arrival at the workshop would begin to build an instructor's credibility. Additionally, a personalized pre-workshop email from the trainer would also begin to establish his or her credibility and start to convey the importance of the workshop to the

trainee. The trainer can also examine the list of workshop participants to see who will be in the room that day and identify ways to manipulate both message content relevance (e.g., stories, examples, etc.) and their own teacher communication behaviors to better meet the needs of the audience. A workshop filled predominately with chemical engineers might benefit from certain examples and illustrations compared to those that might resonate with an audience composed mainly of sales people. Conversely, a training session consisting of people from a certain geographic location or possessing a shared experience might react positively to certain communication behaviors.

TimeWise can also include in the letter a pre-workshop assignment designed to prepare the trainee and his or manager for the upcoming session. The trainee might be asked to identify objectives for the day and assess current time management practices. The trainee's manager could complete a similar assessment regarding the trainee's time management practices, as well as define why the TimeWise time management program in particular is the right fit for the trainee. Perhaps the manager can draw from personal experience with the program or ask others who have attended previous workshops, to provide insight to the trainee.

After completion of the workshop, TimeWise and the trainer could continue to provide support to the trainee. TimeWise could provide an additional job aid to the trainee that allows him or her to track progress with using the time management practices taught in the program. This *scorecard* would allow the trainee to assess on a daily basis how well he or she is using the tools and concepts provided in the session. Additionally, TimeWise could establish an alumni website for course graduates. The site might provide participants access to additional reading materials, audio features, and on-line refresher training. Trainers could augment TimeWise's efforts by assigning specific *homework* assignment during the workshop, sending out follow-up notes seven, 14, and 21 days post-workshop that encourage trainees to keep their workshop commitments, and soliciting success stories from workshop participants that they share with other trainees as appropriate. Lastly, TimeWise could design, implement, and use an online assessment (Oosterhof, Conrad, & Ely, 2008) to gather time management behavior information 21 days after training. An analysis of assessment data could lead to improved course design

and delivery. These post workshop reinforcing behaviors may help trainees follow through on behavioral intentions expressed at the end of the training day.

In addition to TimeWise and trainer communiqués and tools, the trainee and his or her manager can conduct post-workshop actions to reinforce the learning. Trainees might choose to write up their key workshop insights and share them with colleagues. They can also teach what they learned in the workshop to their co-workers and complete the scorecard tool provided by TimeWise. Meanwhile, the trainee's manager could briefly review weekly progress, host a sharing session if multiple TimeWise graduates exist in the organization, and set a firm date on the calendar six months after completion of the training for the trainee to formally *report out* how the program has influenced work performance and any lessons learned through the application of the time management skills and tools.

Each of these actions and others like them will take additional time and effort from all parties, but they may also have the potential to positively influence the trainee's learning by increasing content relevance, the other Content Relevance Centric Theory constructs, and learning application. While pre-workshop actions work to build trainer credibility, enhance content relevance, and serve as a state motivation catalyst, the post-workshop activities are designed to enhance the learning process. They do so by keeping the content in front of the trainee and raising accountability in a collective effort to not allow the return to one's day-to-day work to inhibit the desire to embrace new behaviors.

In addition to the pre and post workshop activities, the concept of scaffolding (Vygotsky, 1986) can be applied both by TimeWise in future course design efforts and by trainers in the classroom. The scaffolding metaphor suggests that instructors can temporarily and quickly assemble *structures* that will help in learning. Future course designs that allow time for trainers to adjust content as needed and trainers themselves who can effectively listen to and assess trainee capabilities will allow for trainees to build on what they have previously learned or experienced. For example, in the TimeWise workshop trainees are asked to apply prioritization techniques to better plan their daily activities. A participant who recently moved from being an hourly worker to a salaried supervisor may have little experience organizing his/her work calendar. If the trainer identifies this challenge, has the flexibility in the course design to make a useful

connection for the trainee, and can build scaffold to enable the trainee's transition, content relevance will likely be enhanced.

While the first two implications, predicting learning outcomes and treating workshop as a process versus an event, provide direct value to TimeWise and other learning and development companies, the study also generated three broader implications. These are of value to instructional communication scholars and their future research endeavors. This section now turns to these implications as it looks at the value of the revised content relevance instrument, the reconceptualization of the study's theoretical model, and future study design considerations.

Content Relevance Operationalization

The researcher extended past means for operationalizing the content relevance construct by adding six items to the existing instrument. These items focused on message content relevance. A post hoc analysis was conducted to compare the original 12-item content relevance instrument to the six items added for the study. The results discussed earlier in this document speak to the overall value of the new 18-item instrument. However, this post hoc analysis allowed the researcher to compare how each item set predicted trainee attitude about the training content, trainee behavioral intentions, and trainee time management behaviors. The comparison revealed that the six item instrument was more effective at predicting learning outcomes than the original 12-item instrument.

The original 12-item content relevance instrument ($t = 5.813, p < .0001, \beta = .350$) predicted trainee attitudes about training content immediately following the completion of training [$F(1, 242) = 33.79, p < .0001$; Adjusted $R^2 = .119$]. On the other hand, the 6-items added to the content relevance instrument for this study ($t = 9.941, p < .0001, \beta = .538$) predicted trainee attitudes about training content immediately following the completion of training [$F(1, 242) = 98.82, p < .0001$; Adjusted $R^2 = .287$]. Table 4.3 and 4.4 provide the regression results.

Table 4.3: *Original 12-item Instrument - Content Relevance on Trainee Attitudes about Training Content*

Predictor	B	SE	B	P
Trainee Attitudes about Training Content	.603	.104	.350	<.0001

Note. Adj. $R^2 = .119$

Table 4.4: *Added Six Items Only - Content Relevance on Trainee Attitudes about Training Content*

Predictor	B	SE	B	P
Trainer Attitudes about Training Content	.996	.100	.538	<.0001

Note. Adj. $R^2 = .287$

The original 12-item content relevance instrument ($t = 5.815, p < .0001, \beta = .349$) predicted trainee behavioral intentions immediately following the completion of training [$F(1, 244) = 33.813, p < .0001$; Adjusted $R^2 = .118$]. In contrast, the 6-items added to the content relevance instrument for this study ($t = 8.511, p < .0001, \beta = .478$) predicted trainee behavioral intentions immediately following the completion of training [$F(1, 244) = 72.434, p < .0001$; Adjusted $R^2 = .226$]. Table 4.5 and 4.6 provide the regression results.

Table 4.5: *Original 12-item Instrument - Content Relevance on Trainee Behavioral Intentions*

Predictor	B	SE	B	P
Trainee Behavioral Intentions	.618	.106	.349	<.0001

Note. Adj. $R^2 = .118$

Table 4.6: *Added Six Items Only - Content Relevance on Trainee Behavioral Intentions*

Predictor	B	SE	B	P
Trainee Behavioral Intentions	.912	.107	.478	<.0001

Note. Adj. $R^2 = .226$

The original 12-item content relevance instrument ($t = 1.033, p = .001, \beta = .105$) predicted trainee time management behaviors 21 days following the completion of training [$F(1, 96) = 1.067, p = .304$; Adjusted $R^2 = .001$]. In contrast, the 6-items added to the content relevance instrument for this study ($t = 2.47, p = .015, \beta = .244$) predicted trainee time management behaviors 21 days following the completion of training [$F(1, 96) = 6.102, p = .015$; Adjusted $R^2 = .05$]. Table 4.7 and 4.8 provide the regression results.

Table 4.7: *Original 12-item Instrument - Content Relevance on Trainee Time Management Behaviors*

Predictor	B	SE	B	P
Trainer Time Management Behaviors	.143	.139	.105	.001

Note. Adj. $R^2 = .001$

Table 4.8: *Added Six Items Only - Content Relevance on Trainee Time Management Behaviors*

Predictor	B	SE	B	P
Trainee Time Management Behaviors	.382	.154	.244	.015

Note. Adj. $R^2 = .05$

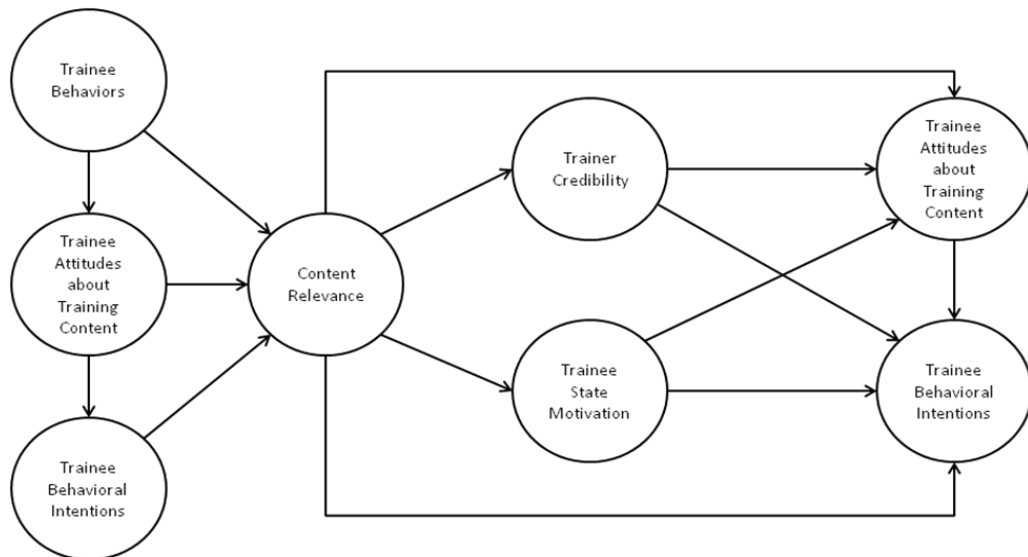
Theoretical Model Reconceptualization

Chaffee and Berger (1987) provide a list of attributes that make a theory a *good theory*: explanatory power, predictive power, falsifiability, internal consistency, heuristic

provocativeness, organizing power, and parsimony. When comparing the proposed theory to the attributes listed by Chaffee and Berger, it is clear that the requirements are met. The Content Relevance Centric Theory possesses explanatory power as it works to explain how to improve trainee attitudes about training content and trainee behavioral intentions to apply that content. Predictive power, which is crucial to scientific theory, is also satisfied, as the theory suggests trainees who perceive the content as relevant will experience higher state motivation, trainee engagement, and impressions of trainer credibility that will culminate with improved learning outcomes.

The proposed theory can be falsified. Researchers can test related hypotheses and the possibility exists for a negative outcome. The theory possesses organizing power as it provides a framework for assimilating existing and future knowledge regarding content relevance. The theory allows for the creation of new hypotheses. Instructional communication scholars can use these study results to focus on a number of new and related areas. Lastly, a cursory review of the theoretical model provides a basic understanding of its constructs, their relationships, and anticipated outcomes. The simplicity of the model does not require a detailed analysis to gain basic understanding. Thus, parsimony is satisfied. However, it is with this final attribute and the analysis of the study findings that the author presents a reconceptualization of the study's model. The reconceptualized model is presented in Figure 4.1.

Figure 4.1: *Reconceptualized Content Relevance Centric Theory*



As revealed in the analysis of hypotheses two and three, trainee engagement did not remain in the final model when working to predict trainee attitudes about training content. Thus, removing the trainee engagement construct simplifies the model and improves its predictive power with regard to predicting trainee attitudes about training content. The reconceptualized model also includes removal of trainee behaviors after completion of the training session. Although the study did reveal the ability of the model to predict trainee attitudes about the content and trainee behavioral intentions, it was not able to support the link between trainee behavioral intentions and trainee behaviors.

Challenges in Content Relevance Manipulation

Similar to the results of previous instructional communication research studies, the author found it difficult to manipulate the content relevance variable given the constraints of the current study. This recurring challenge, coupled with the content relevance instrument modification, creates two implications for future researchers. First, future scholars must design studies that take into account the manipulation challenges and look for ways to mitigate these challenges. Issues such as instructor experience with both teaching in general and the specific course associated with the study, availability of treatment group instructors to work with the researcher prior to the commencement of data collection, and the ability of instructors to deviate from a specific course's content / delivery all must be considered. Second, researchers must take into account both teacher communication characteristics and message content relevance as they design their intervention. Merely focusing on how a trainer delivers the content will miss the importance of manipulating the message that the she or he is delivering. Effective research designers will need to ensure both are appropriately addressed.

A post hoc analysis was conducted to compare how low and high content relevance trainers influenced learning outcomes. Eight trainers participated in the study. The research compared content relevance scores and divided the trainers into low and high content relevance groups. The comparison revealed that high content relevance instructors predicted trainee attitudes about training content and trainee behavioral intentions more effectively than low content relevance trainers. Neither group significantly predicted trainee time management behaviors 21 days following the completion of training. Table 4.9 provides information about each group.

Table 4.9: *High and Low Group Content Relevance Trainers*

Group	Trainer IDs	Content Relevance Scores			
		Low	High	<i>M</i>	<i>SD</i>
All	1,2,3,4,5,6,8,9				
Low	1,6,8,9	2.4	4.0	3.421	.450
High	2,3,4,5	2.72	4.0	3.505	.395

For the low group trainers, content relevance ($t = 3.644, p < .0001, \beta = .375$) predicted trainee attitudes about training content immediately following the completion of training [$F(1, 152) = 13.277, p < .0001$; Adjusted $R^2 = .130$]. On the other hand, high group content relevance ($t = 7.668, p < .0001, \beta = .528$) predicted trainee attitudes about training content immediately following the completion of training [$F(1, 81) = 58.802, p < .0001$; Adjusted $R^2 = .274$]. Table 4.10 and 4.11 provide the regression results.

Table 4.10: *Content Relevance on Trainee Attitudes about Training Content (Low Group)*

Predictor	<i>B</i>	<i>SE</i>	<i>B</i>	<i>P</i>
Trainee Attitudes about Training Content	.794	.218	.375	<.0001

Note. Adj. $R^2 = .130$

Table 4.11: *Content Relevance on Trainee Attitudes about Training Content (High Group)*

Predictor	<i>B</i>	<i>SE</i>	<i>B</i>	<i>P</i>
Trainer Attitudes about Training Content	1.088	.142	.528	<.0001

Note. Adj. $R^2 = .274$

For the low group trainers, content relevance ($t = 6.053, p < .0001, \beta = .438$) predicted behavioral intentions immediately following the completion of training [$F(1, 154) = 36.636, p < .0001$; Adjusted $R^2 = .187$]. Conversely, the high group content relevance ($t = 4.593, p < .0001, \beta = .455$) predicted behavioral intentions about training content immediately following the completion of training [$F(1, 81) = 21.097, p < .0001$; Adjusted $R^2 = .197$]. Table 4.12 and 4.13 provide the regression results.

Table 4.12: *Content Relevance on Trainee Behavioral Intentions (Low Group)*

Predictor	B	SE	B	P
Behavioral Intentions	.936	.155	.438	<.0001

Note. Adj. $R^2 = .187$

Table 4.13: *Content Relevance on Trainee Behavioral Intentions (High Group)*

Predictor	B	SE	B	P
Behavioral Intentions	.983	.214	.455	<.0001

Note. Adj. $R^2 = .197$

For the low group trainers, content relevance ($t = 1.722, p < .0001, \beta = .212$) predicted trainee time management behaviors 21 days following the completion of training [$F(1, 63) = 2.966, p = .090$; Adjusted $R^2 = .030$]. Meanwhile, the high group content relevance ($t = -.242, p = .810, \beta = -.045$) predicted trainee time management behaviors 21 days following the completion of training [$F(1, 29) = 21.097, p = .810$; Adjusted $R^2 = -.032$]. Table 4.14 and 4.15 provide the regression results.

Table 4.14: *Content Relevance on Trainee Time Management Behaviors (Low Group)*

Predictor	B	SE	B	P
Trainee Time Management Behaviors	.328	.190	.212	.090

Note. Adj. $R^2 = .030$

Table 4.15: *Content Relevance on Trainee Time Management Behaviors (High Group)*

Predictor	B	SE	B	P
Trainee Time Management Behaviors	-.078	.321	-.045	.810

Note. Adj. $R^2 = -.032$

Limitations

This study posits a number of interesting findings and contributes to the instructional communication body of knowledge; however, the researcher's effort was not without its limitations. This section highlights five specific limitations for this study. First, although working with a large training and development business provided access to world-class professional trainers, it hindered the researcher's ability to manipulate the content relevance variable for those instructors assigned to the treatment condition. Many of the instructors in the study already worked hard to make the content relevant for their students. Whether a skill they brought to their facilitation role when they were first hired, a *survival mechanism* developed early in their careers with TimeWise, or something they learned over time, the emphasis they already placed on the content relevance construct made it a challenge to manipulate the variable. This challenge was exacerbated by the limited amount of time the researcher had available to interact with them. It may take more than two five-minute video segments and a worksheet to significantly influence to the trainer's ability to make content more relevant, even it were possible to do so with the level of professional trainer take part in the study.

Second, two trainers both from the treatment group failed to fully participate in the study. As previously mentioned, one facilitator elected to not participate as she felt that

asking trainees to complete surveys would negatively distract from the workshop experience and another trainer was unable to participate not by choice but because low enrollment cancelled both of the trainer's workshops. The time constraints of the study and the limited pool of TimeWise facilitators made replacing these facilitators impractical. Thus, the treatment group was limited to only three trainers.

Third, the economic realities that caused low enrollment in the cancelled workshops also contributed to smaller class sizes in all of the study workshops. Conversations between the researcher and TimeWise's General Manager indicated that the *typical* time management workshop had approximately 40 trainees. Thus, over nine courses in the study, the opportunity existed to capture feedback from 360 trainees. In this study, 247 trainees completed the pre-workshop and post-workshop surveys. According to the documentation submitted by the trainers, 12 trainees elected not to participate in the study. Thus, the average class size during the period of the study was approximately 29 workshop participants.

Fourth, the online survey, which was administered 21 days after completion of a trainee's workshop, garnered 98 responses. The number of responses allowed for data analysis and significant results to be determined; nonetheless, the researcher views a 40 percent T₃ response rate as a limitation to the study.

Lastly, as with other studies that take place in a particular context, in this case a professional development training workshop, the researcher is unable to make broad generalizations regarding the applicability of the findings. This is not a particular limitation to this study itself. Rather, it is a testimony to the uniqueness of different populations interacting in different scenarios. However, it is also not to suggest that the findings identified herein cannot be applied to other contexts. To the contrary, the researcher hopes that other scholars will work to make such an extension, but that they do so in a purposeful manner using well designed and administered research studies as discussed in the following section regarding future directions of study.

Future Directions

The present study not only adds to the instructional communication body of research, it also points to several opportunities for future areas of focus. The

identification of these opportunities is born not out of the answers this study provides, but by the questions it generates.

First, the hypotheses in the study were tested in a professional training context, where the instructor and students were located in the same room. To make further claims about the applicability of the results and continue to answer Sprague's (2002) challenge, future researchers must conduct studies and test hypotheses in other contexts. What results might emerge if different location, proximity, and synchronization scenarios were explored? Although one might elect to go to a completely different learning context (e.g., elementary students in a public school system), slight deviations from the present study should be considered. Electing to stay within the professional training context, but moving from in person instruction to on-line, synchronous instructor-led courses or asynchronous e-learning training might yield tremendous insights. Furthermore, how might the complete absence of an instructor influence content relevance and student learning? Of particular interest may be the ability to test the content relevance construct in contexts such as correspondence courses, where teacher communication characteristics are not present and message content relevance can be isolated and manipulated. This will allow researchers to separate teacher communication behaviors from message relevance and may lead to new insights regarding the content relevance construct and its ability to predict learning outcomes.

Second, there is a need for continued longitudinal studies. The present study focused on trainee behaviors 21 days after the completion of the course and found discrepancies between behavioral intentions at the end of a workshop and self-reported actions just three short weeks later. How might an extended duration of several weeks, months, or even years influence application? Studies of longer duration may find that the application of learning continues to decline in future weeks and months or find that just the opposite is true. Is it not possible that a person, who has difficulty applying what he or she learned in the short-term might demonstrate content application months after the completion of training? A trainee might return to his or her work location after the TimeWise course and become so overwhelmed with daily work that the course content and the commitments made during the workshop quickly become distant memories. However, a negative event, like an important deadline missed or meeting forgotten might

jar the person to return to the content with a renewed interest in applying the material. These situations, if they exist, will only be revealed through extended studies.

Third, as the calls for increased accountability continue, efforts should be made to study the Return on Investment (ROI) for training expenditures. How does the application of learning by the individual impact accomplishment of organizational goals and objectives? The present study focused on affective, cognitive, and behavioral learning; however, to identify the true ROI of training, researchers must tie the application of learning to organizational outcomes. This is a challenge as the ties between knowledge application and organizational results become tenuous at best. Organizational leaders, financial officers and frankly any fair-minded evaluator, find such connections suspect as a wide range of variables play a role in improved organizational performance. This is a real concern, but is not a reason to completely avoid the issue. From a merely pragmatic perspective, an organization's financial statements consider equipment and machinery as investments and training as an expenditure. The scrutiny placed on training expenditures alone should cause researchers and practitioners to better understand how the training provided and applied in the workplace ultimately impacts organizational performance.

Fourth, the present study yielded a reconceptualization of the Content Relevance Centric Theory. How might this revised theory be used in future studies? Research should propose studies that test hypotheses associated with the revised theory. These studies could take place in the same or altogether different learning contexts. The important point is to build on the results contained herein to further advance the discussion.

Lastly, a sizeable portion of instructional communication research has focused on teacher related issues such as teacher communication behaviors and teacher-student interaction. Given the importance of message content relevance identified in this study, researchers should continue efforts to move toward message-centric models for understanding instructional communication phenomena. The discussion is not about forgoing past teacher-centric models. It is about better understanding how message content, separated from individual communication characteristics, influences content relevance, state motivation, and learning outcomes.

Over the past three decades, instructional communication scholars have worked to increase the collective understanding of the role communication performs in learning. Initial research has focused on describing teacher and student behaviors and characteristics and proven to be predominately atheoretical. Recent trends suggest that instructional communication is becoming increasingly ground in theory, focused on theory development, elaboration, and testing, and determined to predict learning outcomes. A growing commitment to programmatic study has focused on the reciprocal nature of teacher-student interaction.

A review of instructional communication research illuminates both the progress made and opportunities remaining. Of specific interest to the present study were four macro issues confronting instructional communication scholars and two specific gaps in the literature in regard to the constructs contained in the Content Relevance Centric Theory. In past efforts, researchers have relied too heavily on variable-analytic and atheoretical research. They have elected to not pursue opportunities to address a wide range of learning contexts and conducted few studies that tie research to learning outcomes. Meanwhile, they continue to contribute to an unclear use of key instructional communication terms by applying terms in a manner that is often at odds with conventional usage. Additionally, the existing body of instructional communication literature informed the researcher that past efforts had failed to effectively manipulate the content relevance construct and that a discrepancy exists between how content relevance is conceptualized and operationalized.

The present study addressed these shortcomings by proposing the Content Relevance Centric Theory and testing related hypotheses. The research occurred in a professional training environment that provided ecological validity, and allowed the researcher the opportunity to employ a modified content relevance instrument. The modified instrument worked to better operationalize content relevance by placing emphasis on both teacher communication characteristics and message content relevance. The study extended beyond the constraints of the classroom and gathered data from trainees 21 days after training completion. Study results indicate the importance of the content relevance construct as a predictor of trainee behavioral intentions both directly and when mediated by both trainee state motivation and trainer credibility. Study

outcomes also bring into question the role trainee engagement plays in learning and the connection between behavior intentions and learning application.

In the final analysis, the overarching environmental challenges facing training and education illuminated at the beginning of this study remain. Academic institutions and training companies continue to face increased scrutiny regarding ROI related questions. With billions of dollars expended annually to train and educate during turbulent economic times, these organizations must be able to articulate the results achieved to those who are providing the funding. This study provides evidence that scholars and practitioners should increase their awareness of the content relevance variable, the role it plays in influencing learning, and how best to manipulate it. Doing so may help significantly in efforts to increase learning outcomes.

Appendix A – Survey Topics by Time Period

T1 – Pre-Training Survey	T2 – Post-Training Survey	T3 – 21 days After Training
<ul style="list-style-type: none"> • Demographics • Trainee Attitudes About Training Content • Trainee Intended Behaviors • Trainee Time Management Behaviors 	<ul style="list-style-type: none"> • Content Relevance • Trainee Attitudes About Training Content • Trainee Intended Behaviors • Trainer Credibility • Trainee Engagement • Trainee State Motivation 	<ul style="list-style-type: none"> • Trainee Time Management Behaviors

Appendix B – T₁ Survey Items

Demographics

Instructions: Please answer the following demographic questions.

1. Sex/gender: (1) Female (2) Male
2. Primary ethnic background:
 (1) Euroamerican (2) Latino/a (3) Asian American
 (4) African American (5) Other Foreign Born Citizen (6) Other
3. Age:
 (1) 18-25 (2) 26-33 (3) 34-41 (4) 42-50 (5) Over 50
4. Years work experience:
 (1) less than 1 (2) 1-5 (3) 6-10 (4) 11-20 (5) Over 20
5. Years with current employer
 (1) Less than 1 (2) 1-5 (3) 6-10 (4) 11-20 (5) Over 20

Trainee Attitudes about Training Content

Instructions: Using the following scales, evaluate your expectations regarding the workshop you are about take. Please circle the number for each item that best represents your feelings.

Content/subject matter of the course:

- | | | | | | | | | | |
|----|----------|---|---|---|---|---|---|---|------------|
| 6. | Bad | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Good |
| 7. | Valuable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Worthless* |
| 8. | Negative | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Positive |

Your likelihood of actually enrolling in another course of related content if your schedule so permits:

- | | | | | | | | | | |
|-----|------------|---|---|---|---|---|---|---|-------------|
| 9. | Unlikely | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Likely |
| 10. | Possible | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Impossible* |
| 11. | Improbable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Probable |
| 12. | Would | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Would Not* |

In this course, you will learn a number of time management behaviors. Do you anticipate the behaviors recommended in this course to be:

- | | | | | | | | | | |
|-----|-----------|---|---|---|---|---|---|---|-----------|
| 13. | Good | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Bad* |
| 14. | Worthless | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Valuable |
| 15. | Positive | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Negative* |

* Reverse code for scoring

Trainee Intended Behaviors

Instructions: Using the following scales, evaluate your expectations regarding the workshop you are about take. Please circle the number for each item that best represents your feelings.

Your likelihood of actually attempting to engage in behaviors recommended in the course:

16.	Likely	1	2	3	4	5	6	7	Unlikely*
17.	Impossible	1	2	3	4	5	6	7	Possible
18.	Probable	1	2	3	4	5	6	7	Improbable*
19.	Would Not	1	2	3	4	5	6	7	Would

* Reverse code for scoring

Trainee Time Management Behaviors

Please indicate the extent to which you agree with the following statements.

7 = Strongly Agree

6 = Agree

5 = Slightly Agree

4 = Neither Agree, Nor Disagree

3 = Slightly Disagree

2 = Disagree

1 = Strongly Disagree

Trainee Time Management Behaviors (derived from TimeWise, 2008)

20. I have professional goals that are tied to my organization's most important priorities.
21. I effectively use an integrated planning system (e.g., paper planner, software, and/or handheld device).
22. I have clear sense of direction and purpose in my life.
23. I take time to plan for the future.
24. I spend much of my time on important activities that demand my immediate attention such as crises, pressing problems, and deadline-driven projects.
25. I consistently achieve my work goals.
26. I am achieving meaningful personal goals.
27. I spend much of my time on activities that demand my immediate attention but have little relevance to my top priorities (e.g., needless interruptions, unimportant meetings, noncritical phone calls, and email).
28. I begin each week with a clear plan to achieve my highest priorities.
29. I prioritize my tasks so the most important aspects of my life get the most attention.
30. My goals are written down with definite completion dates.
31. I am organized and can find needed information quickly.

32. I spend much of my time on busywork, junk mail, excessive TV, Internet trivia, games, etc.
33. I spend much of my time on activities that are important but not urgent, such as planning, preparation, prevention, relationship building, and self-renewal.
34. I have a written statement of personal values.
35. I have balance between my personal and professional life.
36. I am able to keep track of my tasks and appointments without letting things fall through the cracks.
37. I feel I am always “putting out fires” and working in a crisis mode.
38. I begin each day with a planning session.
39. I feel I am on top of things because of careful preparation and planning.
40. My planning system works well.
41. I take time to keep myself physically fit and healthy.
42. I have an effective filing system for paper and electronic information.
43. I feel I am always addressing issues that are important to others, but not to me.
44. I review progress on my goals and projects at least weekly.
45. I feel I waste a lot of time.
46. I have an effective method for capturing key information throughout the day.
47. I take time to education myself and expand my knowledge and skills.
48. I quickly identify activities that are not in harmony with my values.
49. I take time to build good relationships with my co-workers.

Appendix C – T₂ Survey Items

Content Relevance

Instructions: Read each statement and use the following scale to indicate how frequently your trainer performed each of the behaviors. There are no right or wrong answers.

5 = Very Often

4 = Often

3 = Occasionally

2 = Rarely

1 = Never

1. Used examples to make the content relevant to me.
2. Provided explanations that make the content relevant to me.
3. Used exercises or explanations that demonstrate the importance of the content.
4. Explicitly stated how the materials relate to my career goals or my life in general.
5. Linked content to other areas of interest.
6. Asked me to apply content to my own interests.
7. Used workshop exercises that involve the application of the content to my career interests.
8. Helped me to understand the importance of the content.
9. Used own experiences to introduce or demonstrate a concept.
10. Used other trainee experiences to demonstrate or introduce a concept.
11. Used discussion to help me understand the relevance of a topic.
12. Used current events to apply a topic.

Instructions: Read each statement and use the following scale to evaluate the workshop content.

5 = Strongly Agree

4 = Agree

3 = Neutral

2 = Disagree

1 = Strongly Disagree

13. The course content will help me to satisfy my personal needs.
14. The course content is valuable to me.
15. The course content will help me to satisfy my personal goals.
16. The course content is of interest to me.
17. The course content will help me to satisfy my career goals.
18. The course content is important.

Content Relevance (derived from Frymier & Shulman, 1995). For this study, questions 13-18 have been added to the original instrument.

Trainee Attitudes about Training Content

Instructions: Using the following scales, evaluate the workshop. Please circle the number for each item that best represents your feelings.

Content/subject matter of the course:

6.	Bad	1	2	3	4	5	6	7	Good
7.	Valuable	1	2	3	4	5	6	7	Worthless*
8.	Negative	1	2	3	4	5	6	7	Positive

Your likelihood of actually enrolling in another course of related content if your schedule so permits:

9.	Unlikely	1	2	3	4	5	6	7	Likely
10.	Possible	1	2	3	4	5	6	7	Impossible*
11.	Improbable	1	2	3	4	5	6	7	Probable
12.	Would	1	2	3	4	5	6	7	Would Not*

In this course, you will learned a number of time management behaviors. Behaviors recommended in the course:

13.	Good	1	2	3	4	5	6	7	Bad*
14.	Worthless	1	2	3	4	5	6	7	Valuable
15.	Positive	1	2	3	4	5	6	7	Negative*

Trainee Intended Behaviors

Instructions: Using the following scales, evaluate the workshop. Please circle the number for each item that best represents your feelings.

How likely are you to engage in behaviors recommended in the course:

16.	Likely	1	2	3	4	5	6	7	Unlikely*
17.	Impossible	1	2	3	4	5	6	7	Possible
18.	Probable	1	2	3	4	5	6	7	Improbable*
19.	Would Not	1	2	3	4	5	6	7	Would

* Reverse code for scoring

Trainer Credibility

Instructions: Using the following scales, evaluate the workshop. Please circle the number for each item that best represents your feelings.

Competence:

20.	Intelligent	1	2	3	4	5	6	7	Unintelligent*
21.	Untrained	1	2	3	4	5	6	7	Trained
22.	Expert	1	2	3	4	5	6	7	Inexpert*
23.	Uniformed	1	2	3	4	5	6	7	Informed
24.	Competent	1	2	3	4	5	6	7	Incompetent*
25.	Stupid	1	2	3	4	5	6	7	Bright

Character:

20.	Sinful	1	2	3	4	5	6	7	Virtuous
21.	Dishonest	1	2	3	4	5	6	7	Honest
22.	Unselfish	1	2	3	4	5	6	7	Selfish*
23.	Sympathetic	1	2	3	4	5	6	7	Unsympathetic*
24.	High character	1	2	3	4	5	6	7	Low character*
25.	Untrustworthy	1	2	3	4	5	6	7	Trustworthy

* Reverse code for scoring

Trainee Engagement

Instructions: Read each statement and use the following scale to indicate how frequently your trainer performed each of the behaviors. There are no right or wrong answers.

5 = Very Often

4 = Often

3 = Sometimes

2 = Rarely

1 = Never

Trainee Engagement (derived from Henning, 2008)

26. I contributed to workshop discussions.
27. I volunteered information during workshop discussions.
28. I answered questions posed by the trainer in the workshop.
29. I contributed examples from my own experience during workshop discussions.
30. When I didn't understand the material, I asked questions.
31. I took good notes in the workshop.
32. I listened carefully during the workshop.

Trainee State Motivation

Instructions: These items are concerned with your feelings about the workshop. Please circle the number toward either word which best describes your feelings.

State Motivation (derived from Christophel, 1990)

33.	Motivated	1	2	3	4	5	6	7	Unmotivated*
34.	Interested	1	2	3	4	5	6	7	Uninterested*
35.	Involved	1	2	3	4	5	6	7	Uninvolved*
36.	Not stimulated	1	2	3	4	5	6	7	Stimulated
37.	Inspired	1	2	3	4	5	6	7	Uninspired*
38.	Unchallenged	1	2	3	4	5	6	7	Challenged
39.	Uninvigorated	1	2	3	4	5	6	7	Invigorated
40.	Unenthused	1	2	3	4	5	6	7	Enthused
41.	Excited	1	2	3	4	5	6	7	Not Excited*
42.	Aroused	1	2	3	4	5	6	7	Not Aroused*
43.	Not fascinated	1	2	3	4	5	6	7	Fascinated

* Reverse code for scoring

Appendix D – T₃ Survey Items

Trainee Time Management Behaviors

Instructions: Please indicate the extent to which you agree with the following statements

- 7 = Strongly Agree**
- 6 = Agree**
- 5 = Slightly Agree**
- 4 = Neither Agree, Nor Disagree**
- 3 = Slightly Disagree**
- 2 = Disagree**
- 1 = Strongly Disagree**

Trainee Time Management Behaviors (derived from TimeWise Training, 2008)

1. I have professional goals that are tied to my organization's most important priorities.
2. I effectively use an integrated planning system (e.g., paper planner, software, and/or handheld device).
3. I have clear sense of direction and purpose in my life.
4. I take time to plan for the future.
5. I spend much of my time on important activities that demand my immediate attention such as crises, pressing problems, and deadline-driven projects.*
6. I consistently achieve my work goals.
7. I am achieving meaningful personal goals.
8. I spend much of my time on activities that demand my immediate attention but have little relevance to my top priorities (e.g., needless interruptions, unimportant meetings, noncritical phone calls, and email).*
9. I begin each week with a clear plan to achieve my highest priorities.
10. I prioritize my tasks so the most important aspects of my life get the most attention.
11. My goals are written down with definite completion dates.
12. I am organized and can find needed information quickly.
13. I spend much of my time on busywork, junk mail, excessive TV, Internet trivia, games, etc.*
14. I spend much of my time on activities that are important but not urgent, such as planning, preparation, prevention, relationship building, and self-renewal.
15. I have a written statement of personal values.
16. I have balance between my personal and professional life.
17. I am able to keep track of my tasks and appointments without letting things fall through the cracks.
18. I feel I am always "putting out fires" and working in a crisis mode.*
19. I begin each day with a planning session.
20. I feel I am on top of things because of careful preparation and planning.
21. My planning system works well.

22. I take time to keep myself physically fit and healthy.
23. I have an effective filing system for paper and electronic information.
24. I feel I am always addressing issues that are important to others, but not to me.*
25. I review progress on my goals and projects at least weekly.
26. I feel I waste a lot of time.*
27. I have an effective method for capturing key information throughout the day.
28. I take time to education myself and expand my knowledge and skills.
29. I quickly identify activities that are not in harmony with my values.
30. I take time to build good relationships with my co-workers.

* Reverse code for scoring

Appendix E – Trainer Content Relevance Worksheet

Strategy	What is it?	Think of 1-3 examples?	How can I address these?
Experience	State explicitly how instruction builds on learner’s existing skills	1. 2. 3.	1. 2. 3.
Present Worth	Tell participants why the content is relevant and important	1. 2. 3.	1. 2. 3.
Future Usefulness	State explicitly how instruction relates to future activities of the learner	1. 2. 3.	1. 2. 3.
Need Matching	Link content to specific student needs such as the need for achievement, promotion, growth, etc.	1. 2. 3.	1. 2. 3.
Modeling	Demonstrate and model the value and relevance of the content	1. 2. 3.	1. 2. 3.
Choice	Provide meaningful alternative methods for accomplishing a goal	1. 2. 3.	1. 2. 3.

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