STUDENTS’ ATTITUDES TOWARDS RAPPORT-BUILDING TRAITS AND PRACTICES IN ONLINE LEARNING ENVIRONMENTS

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This research was a triangulated study of student attitudes towards instructors’ rapport-building traits and their preferences amongst instructors’ rapport-building practices in online learning environments. Participants were undergraduate and graduate students enrolled in courses within an educational technology program at a central Texas university. The study employed a mixed-methods approach involving the Likert-item assessment of learners’ attitudes, the identification and prioritization of learner preferences through pairwise comparisons, and semi-structured interviews that provided richer, more detailed information. Findings indicated a strong preference for instructor-based traits and practices over pedagogically-based ones. These traits and practices loaded into the components of social presence, enjoyable interaction, and personal connection.
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CHAPTER 1
INTRODUCTION

This chapter introduces the research topic, offering a brief background to frame the general problem of study. It next addresses the purpose and significance of the research, and identifies the research questions that the study seeks to answer. The chapter concludes with an overview of the major elements of inquiry, followed by assumptions and limitations to the study.

Background

As more learning takes place online, the question of how to build rapport becomes increasingly important. Many of the verbal and non-verbal cues that support the building of rapport in traditional, face-to-face situations, such as body language, speech, and posture, are not present in online environments (Adlington, 2010; Murphy & Rodriguez-Manzanares, 2012). In the online arena, activities and practices that shape student-instructor rapport can also be linked to peer-to-peer rapport, engagement, interaction, presence, and a sense of community (Camianne, 2010; Copeland & Warre, 2004; Gautreau, 2008; Lear, 2010; Reushle, Dorman, Evans, Kirkwood, McDonald & Worden, 1999).

The critical elements of successful rapport-building in online learning environments appear to be interrelated in numerous ways. Schaps, Lewis, and Watson (1997) found that building relationships with individual students helped instructors to create a sense of community. There are also indications that the early establishment of rapport in an online learning environment can lead to the rapid development of more
robust and sustainable levels of discourse (Jones, Warren & Robertson, 2009). Further, students who enjoyed close relationships with instructors were reportedly more confident and self-directed than students who perceived their instructors to be less supportive or threatening (Creasey, Jarvis & Gadke, 2009; Pintrich, Roeser, & De Groot, 1994; Ryan, Gheen, & Midgley, 1998). Studies have indicated that caring teachers created more positive classroom environments where students tended to show greater achievement gains and better affective responses (Baird, 1973; Goodenow, 1993; McKeachie, Lin, & Mann, 1971) while engaging in decreased disruptive student behaviors such as academic dishonesty (Hasenhauer & Herrmann, 1996; Lindmark, 1996).

Noteworthy are the indications of a direct relationship between rapport and student outcomes. Nussbaum and Scott (1981) found indications that “improvements in caring” lead to improved cognitive learning, while Frymier (2007) stated that “strong interpersonal relationships in the instructional setting” increased affective learning. Teven (2001) gave student-teacher rapport at least partial credit for higher levels of students’ academic interest and success. Devito’s (1986) linking of “the development of a relationship between student and teacher…. to greater satisfaction and more effective learning” (p. 53) is supported by more-recent studies by Granitz, Koernig, and Harich (2009) and Murphy and Rodriguez-Manzanares (2012).

Identifying which instructor traits and practices facilitate the establishment and nurturing of rapport is vital; “even though teachers might be well-versed in particular content areas, learning may not be supported if they do not have good rapport with their students” (Camianne, 2010, p. 1). In that successful rapport building may provide keys
to the creation of other supports for effective online learning, there is a need to identify common traits and practices that lead to strong, positive student-instructor affiliation. To do this, we must first understand the nature and meaning of rapport.

What is Rapport?

Rapport is an invaluable skill; more than simply knowing “what to say or do next,” it involves a sincere interest in others. Jonson, Weitz, Castleberry, and Tanner (1992) defined it as “a close, harmonious relationship founded on mutual trust.” Ashforth and Humphrey (1993) described it as “a sense of genuine interpersonal sensitivity and concern.” Dobransky and Frymier (2004) viewed it as a relationship involving “shared control, trust, and intimacy.” Many of the comments relating to rapport could be distilled down to the common themes of enjoyable interaction and personal connection. While these two were the most prominent issues (Gremler and Gwinner, 2000), they did not encompass all the possible components of rapport.

Meharabian (1969) spoke of “instructional immediacy” as “behaviors that enhance closeness and nonverbal interaction with another.” Gorham (1988) later added verbal interaction that increased psychological closeness between teachers and students. Tickle-Degnen and Rosenthal (1990) asserted that rapport exists only in an interaction between individuals. More recently, others discussed rapport as a group dynamic. Frisby (2009) found that instructors’ engaging interactions with students led to “the development of an interpersonal relationship and perceived positive rapport in the classroom” (p. 4). Bernieri, Gillis, Davis and Grahe (1996) argued that the construct of rapport “does not reside within a single individual” (p. 110). Schaps, Lewis, and Watson
(1997) posited that instructors could build community by building relationships with their students. In effect, rapport built community. These findings indicate that rapport goes beyond one-on-one interactions.

For the purposes of this study, rapport in online learning environments is defined as “a close and interactive relationship that is built upon trust, shared control, and engagement in activities that are aimed at advancing the skills, abilities, or knowledge of a clearly defined group, and of its individual members.”

Problem Statement

The importance of student-instructor rapport has been well documented. Numerous studies have touched upon the benefits of rapport in both traditional and online classes. Strong relationships between students and instructors have been linked to better classroom management (Docan-Morgan, 2009; Murphy & Valdez, 2005; Sapon-Shevin, 1991; Tickle-Degnon, 1990), higher student motivation (Eccles, 2004; Lowman, 1985), enhanced communication (Bjorner, 1993; Dixson, 2010), and improved learning outcomes (Copeland, 2004; Devito, 1986; Frymier, 2007; Gorham & Christophel, 1992; Teven, 2001). However, the question of which instructor practices and traits support the building of rapport remains largely unanswered (Frisby & Martin, 2010; Murphy & Rodriguez-Manzanares, 2012).

Purpose of the Study

This study explored undergraduate and graduate students’ perceptions regarding the importance of certain rapport-building traits possessed by ideal online instructors. It
also examined students’ preferences for instructors’ rapport-building practices in online learning environments. For the sake of clarity and brevity, the term “elements” is used when referring to both traits and practices.

Focusing upon rapport, this research isolated one element of an earlier study conducted by myself and others (Jones, Lin, Rose, & Wright, 2009). In exploring the issue of students’ perceptions of rapport-building traits and students’ preferences for rapport-building practices, this study seeks to answer several research questions.

• Research Question 1. Is there a rank order of rapport-building elements possessed and utilized by online instructors?

• Research Question 2. What are the major rapport-building components that exist in online learning environments?

• Research Question 3. What major themes exist regarding the study of rapport-building elements in online learning environments?

• Research Question 4. Is there a correlation between the logical inconsistencies of students’ choices and the rank order of the rapport-building elements in online learning environments?

Components of Research Design

Creswell (2009) identified three elements that must be taken into consideration when designing formal research: a) the philosophical worldview; b) the strategies of inquiry; and c) the research methods. These components interconnected to structure and direct the research plan.

*Philosophical Worldview*

Guba (1990) defined worldview as “a basic set of beliefs that guide action” (p. 17). With this study’s focus on the traits and practices that support the successful
creation of rapport in online learning environments, a pragmatist worldview, with its emphasis on the necessary utility of acquired knowledge (Corbin & Strauss, 2008; Dewey, 1929; Sternberg, 2006), the efficacy of research methods (Creswell, 2009; Patton, 1990), and a history of association with mixed methods research (Armitage & Keeble-Allen, 2007; Feilzer, 2010; Molina Azorín & Cameron, 2010; Rossman & Wilson, 1985; Tashakkori & Teddlie, 1998) guided this study. The flexibility and inclusiveness of the pragmatist approach supported the plans for this study to include the use of qualitative and quantitative methods. Untethered from adherence to any single view of truth or knowledge, this study was able to place the various components of rapport building within the context of social constructivist theory, complemented by other such learning theories and practices as social presence, multiple intelligences, active learning, and universal design for learning. Focusing on the intended outcomes permitted planning of the study on the basis of the end results rather than on the methodology and process.

The Strategies of Inquiry

This study employed a sequential mixed methods strategy (Creswell, 2009). This is a distinct form of research utilizing both quantitative and qualitative methodologies. Information gathered from the initial quantitative instrument was used in the construction of the second, qualitative survey (see Supplemental Folder). Data gathered from both served as the basis for creation of the latter semi-structured interviews. This combination of methodologies worked to limit the effects of flaws and biases that could exist in any one of the individual approaches.
Research Methods

Data was first collected through an instrument of Likert-scaled items that drew from earlier, proven Likert scale assessments (Creasey, Jarvis, & Knapcik, 2009; Crook & Booth, 1997; Gremler & Gwinner, 2000). A pairwise comparisons instrument used in an earlier study of technology-based learning environments (Jones, Lin, Wright & Rose, 2009) was modified and administered to establish students’ preferences for rapport-building instructor practices in online learning environments. These practices were identified through a review of current literature (Chickering & Gamson, 1987; Chizmar, Walbert & Hurd, 1999; Crook & Booth, 2001; Ellis 2000; Goodboy & Myers, 2008; Graham, 1997; Moore, 1989). Semi-structured interviews of willing participants completed the data collection efforts. The interviews provided additional details that could not be collected with the more-structured tools. The combination of the interviews with the quantitative and qualitative formal data collection methodologies helped to overcome potential flaws resulting from a small sample size; biases existing in the different data collection instruments could counteract each other. The triangulation of data from these three sources brought together the similar findings from each method to help create a convergent view of the results.

Assumptions and Limitations of the Study

The research design was influenced by several assumptions. Some were more general in nature; others were derived from earlier work related to the study of critical design elements in online learning environments (Jones, Lin, Wright & Rose, 2009):
• Subjects' responses would be understood through my personal understanding of the context in which they were given, and through analysis and treatment of the data.

• While participants would provide accurate information regarding their preferences for rapport-building practices, these stated preferences could conflict when their placement in rank order was attempted.

• While certain rapport-building traits would be viewed as more important by the subjects, there could possibly be no clear agreement amongst the participants.

• The protection of confidentiality for the subjects would support accurate responses to the survey and honest responses to questions asked as part of the semi-structured interviews.

• Given the pragmatic and social constructivist underpinnings of this study, no hypotheses were presented; no outcomes were predicted. Instead, vital information emerged through the analysis of the data, and was used to develop the creation of the semi-structured interviews.

• Results from the semi-structured interviews would clarify and validate the information derived from the data gathered earlier in the study.

As with most research efforts, this study involved certain limitations. Several were identified at the outset:

• Data collection would be incomplete. Some subjects would fail to rate all of the scales; some would fail to participate in all phases of the data collection.

• Because they would take place towards the end of the semester, the opportunities for conducting the semi-structured interviews could be limited.
• Because the survey instruments would be limited in number and consist primarily of Likert scale items and pairwise comparisons, the scope and depth of the collected data would be restricted.

• The predetermined set of rapport-building traits and practices might not reflect the preferences of the subjects in this study.

• The small sample size could affect the accuracy of the outcomes.

As stated above, this mixed methods approach was utilized in order to limit flaws, to overcome biases, and to lessen the impact of other limitations. The integration of results from the examination of the multiple data sources provides readers of this study with an accurate picture of the research findings. While no attempt is made to generalize these findings, readers of this research have been provided with sufficient information with which to consider possible applications to other circumstances and domains.
CHAPTER 2
REVIEW OF RELATED LITERATURE AND THEORY

Good rapport benefits students and instructors alike. Strong teacher-learner relationships have been linked to higher levels of achievement (Copeland, 2004; Devito, 1986; Frymier, 2007; Gorham & Christophel, 1992; Teven, 2001); rapport-building behavior has also been positively associated with affective learning (Frisby, 2009; Gorham, 1988; Ortiz-Rodrigues, Telg, Irani, Roberts, & Rhoades, 2005; Witt & Wheeless, 2001) which many believe serves as a bridge to more significant cognitive learning (Arabaugh, 2000; Ellis, 2000; Goodboy & Myers, 2008, Hutchins, 2003). Other benefits include heightened student motivation (Eccles, 2004; Lowman, 1985), improved communication between students and with instructors (Björner, 1993; Dixson, 2010) and to superior classroom management (Docan-Morgan, 2009; Murphy & Valdez, 2005; Sapon-Shevin, 1991; Tickle-Degnen, 1990).

There are also studies where instructors’ rapport-building behavior was seen as favoring affective learning over cognitive learning (Andersen, 1979; Witt & Wheeless, 2001). And, in some cases, improvements in one form of learning came at the expense of the other (Messman & Jones-Corley, 2001; Nussbaum & Scott, 1980). The question of what specific actions promote the building of rapport in online learning environments remains largely unanswered (Frisby, 2009). As more and more learning takes place online, this question becomes increasingly important.

Rapport and the Seven Principles for Good Practice in Undergraduate Education

In seeking to determine how best to build student-instructor rapport, it is good to
anchor an approach to establish, sound standards of instruction. Chickering and Gamson offered a solid foundation in their “Seven Principles for Good Practice in Undergraduate Education” (1987). While focusing on undergraduate students, the authors noted that these principles “work for many different kinds of students -- white, black, Hispanic, Asian, rich, poor, older, younger, male, female, well-prepared, under-prepared” (p. 4). These seven principles are clearly applicable to web-based and other distance learning formats in that the instructional strategies focus on the learner, rather than on the technology used to deliver instruction (Chickering & Ehrmann, 1996; Hutchins, 2003).

Indeed, several studies have shown the applicability of the seven principles to online instruction. Graham et al. (2001) developed a collection of lessons learned and specific recommendations that they employed in their creation of courses whose instructional practices were directly based upon these principles. Lemke and Ritter (2000) found that e-mail, web and video conferencing, simulation technologies and other online resources supported the use of the seven principles. Chizmar, Walbert, and Hurd (1999) designed undergraduate courses using web-based technologies to develop peer cooperation, facilitate the delivery of feedback, and to accommodate students’ diverse learning needs. Even Chickering (with Ehrmann, 1996) wrote on how web-based and other technologies could be used “as a lever” to implement the seven principles in online instruction.

A close look at the way that these principles are applied reveals that a) communication is an underlying activity; b) activities that support one principle often apply to others; and c) these principles can be applied to support rapport-building
practices. Each form of communication can support multiple principles as it builds 
rapport.

**Principle 1. Encourages Contact between Students and Faculty**

Contact between instructors and students is “regarded as essential by many 
educators, and as highly desirable by many learners” (Moore, 1989). While promoting 
increased contact in an online environment may appear difficult, Freitas, Myers, and 
Avtgis (1998) found that students enrolled in a web-based, synchronous course were no 
different from students in a face-to-face course in regard to their perception of the 
amount of instructors’ verbal immediate behaviors. Graham, Cagiltay, Lim, Craner, and 
Duffy (2000) stated that:

instructors to one degree or another built trust with their students by providing 
opportunities for strengthening their relationship. This is done by sharing values, 
attitudes, and experiences with the students and encouraging them to do the 
same. (p. 3)

There are a wide range of specific practices that online instructors can employ to 
encourage contact. Hutchins (2003) stated that simply calling students by name could 
increase rapport; it also served as encouragement for additional contact. Graham et al. 
(2001) found that it was important for instructors to communicate specific information to 
students regarding instructor-student contact. Such issues as to the types and extent of 
information that should be placed on discussion boards, how quickly students could 
expect responses to emails, and the proper communication tools to be used for 
discussing grades or other, more personal, information could be communicated to the 
students early in the course. Technology can also be used to build rapport; LaRose and 
Whitten (2000) programmed computers with personal greetings and responses that
increased students’ perceptions of verbal immediacy in the course. Borger (2006) found that discussions in online bulletin boards, listservs, and online videoconferences helped to overcome the lack of face-to-face interaction. Whether delivered personally or through technological tools and resources, students’ satisfaction with online instruction rests upon the frequency and quality of their interaction with the instructor (Arbaugh, 2001; Jiang and Ting 2000; Schulz, 2001; Shea et al., 2001).

**Principle 2. Develops Reciprocity and Cooperation among Students**

“Learner-to-learner” was one type of interaction identified by Moore (1989), describing it as “an extremely valuable resource for learning. “The nurturing of a sense of community can lead to student perceptions of being valued, known, connected, and respected” (Schaps et al., 1997). Student participation and discussion can aid in creating a sense of belonging (Brown and Pruis, 2003). Not only does group activity support individual learning, it also develops skills that prove useful as students move out into working society (Moore, 1989). Rapport structures these social interactions (Coupland, 2003; Frisby, 2009) and encourages increased interaction by reducing anxiety (Frisby, 2009; Jorgenson, 1992).

The development of reciprocity and cooperation can often be accomplished through course design. Participation can be made mandatory, especially when emphasized by making it a graded element of the course. However, instructors must communicate their expectations and stress the importance of quality participation over frequent, but shallow, attempts (Graham et al., 2001). Providing feedback to students’ efforts keeps them on track. Collaborative activities provide students with a sense of
importance as they come to see themselves as valuable contributors to a group effort (Cuthrell, 2007). Cohorts, a more formal and long-term collaborative structure, also nurture reciprocity and cooperation while supporting student progress and success (Eastmond and Jiang, 2003).

Developing a cooperative environment in a distance learning course may seem difficult; but, it might actually be easier than in the brick-and-mortar classroom. Phillips, Santoro, and Kuehn (1988) found it difficult to develop such an environment in the traditional face-to-face settings. The utilization of recorded video and computer exchanges, discussion boards, and chat rooms increased the frequency and convenience of interactive group experiences. Moore (1989) increased cooperation and reciprocity by requiring online student-led presentations, followed by small group peer analysis and discussion, feedback, and more discussion with the class as a whole. This practice not only facilitated cooperation and reciprocity amongst the learners; it replaced traditional lectures with active learning experiences. Mourtos (2010) promoted interaction and student involvement by having small groups work on open-ended problems that called for creative thinking and critical judgment. Restine (2008a) found that active learning activities based upon peer collaboration and cooperation could increase motivation that results in higher student performance.

It must be noted that some students resist collaborative approaches, and prefer independent study. Cuthrell (2007) found students who felt that their independent strategies were convenient, permitted them to review material and advance at their own pace, “seemed ‘easy,’” and allowed them to have a sense of ownership for the grade
that they received. However, the preponderance of current literature supports the use of collaborative approaches that foster cooperation and reciprocity.

**Principle 3. Encourages Active Learning**

Active learning moves education away from the mere transmission of content (traditionally, through instructor-led lectures) to provide learners with opportunities to make use of, and create personal meaning for, the subject matter. Interaction with content allows student to gain a greater understanding of the material, and to organize it in relation to existing knowledge (Moore, 1989; Thompson & Jorgensen, 1989). Gayton and McEwen (2007) reported that peer rapport, the promoting of thought-provoking dialogue, and the utilization of a collection of interactive activities were popular instructional experiences identified by both teachers and learners. Instructors and instructional designers have found that active learning strategies are supported by theories promoting constructivist approaches (Petty, 2004; Stanley & Dougherty, 2010), case-based studies (Herreld, 1994; Rybarczyk, Baines, McVey, Thompson, &e, 2007), cooperative and collaborative learning (Cooper, 1995; Johnson and Johnson, n.d), and problem-based learning (Anderson, Mitchell, and Osgood, 2005, 2007; Hintz, 2005).

Popularity with students is due, in part, to the fact that active learning practices can be flexible to accommodate multiple learning styles and can provide social experiences in online environments (Goodboy, 2007; Mohamed, 2008; Stanley & Dougherty, 2010). Some instructors have set up Twitter sites for their classes; making use of this popular social media tool allowed students to post their thoughts about current content matters and to post their course-related discoveries (Bruff, 2009; TLT
Group, n.d.). However, it should be noted that there is also resistance to active learning from students who are more accustomed to passively listening to lectures, who resent having to take a more active role in their education, or who are not comfortable with shouldering more of the responsibility for their learning (Keeney-Kennicutt, Gunersel & Simpson, 2008; Mohamed 2008).

Effective active learning strategies use a variety of methods to address the needs of students with different learning styles (Mourtos, 2010). The application of course concepts and materials to the real world is accomplished through the use of visual resources, hands-on activities, homework problems, and labs, all of which can be followed up with reflection and discussions. These asynchronous discussions, along with emails, synchronous group chats and virtual class meetings utilize various means of communication to complement the use of various resources in creating effective active learning strategies (Restine, 2008a).

**Principle 4. Gives Prompt Feedback**

One way to give distance education students the feel of a traditional setting is to provide feedback (Copeland & Warren, 2004). In answering questions or commenting on an assignment grade (information feedback) or confirming the receipt of a query or assignment (acknowledgement feedback) instructors create one more possibility for contact with students (Graham et al., 2001). Routinely taking advantage of feedback opportunities enables instructors to adopt proactive measures to deal with learning and teaching issues. The information that students receive serves as a substitute for cues that are missing in distance learning environments. (Restine, 2008b).
Not all feedback needs to be personally delivered; Chizmar and Walbert (1999) offered students web-based check-pages that provided immediate feedback to students completing lab assignments. Rogers, used a computer that automatically checked the descriptive data found in student projects (TLT Group, 2010). But, it is possible to deliver too much feedback. Ackerman and Gross (2010) found that an abundance of instructor feedback was viewed negatively by students. Whereas offering more comments resulted in students liking the instructor less, offering moderate or small amounts maintained rapport.

Students also serve as a source for feedback when assignments are posted to discussion boards and a thread is opened up for comments from the class; chat rooms provide opportunities for peer feedback, as well as instructor-student feedback to groups as well as to individual learners (Restine, 2008c). Anonymous feedback systems are asynchronous discussion boards where students need not identify themselves. The anonymity allows “lurking” or weaker students to ask questions and make comments without fear of embarrassment or exposure and can bring student participation levels to almost 100% (TLT Group, 2010).

**Principle 5. Emphasizes Time on Task**

Moore and Kearsley (2005) identified student interaction with content as “a defining characteristic of education.” It is important for online instructors to impress upon their students that the time that they spend on distance learning is equal to, and often exceeds, the time required for traditional face-to-face instruction. Students often mistake the convenience and accessibility of online courses as indicators that time commitments
are less stringent. However, as with traditional coursework, time on task is critical to success (Kearsley, 1995; Kumari, 2001; Moore, 1989; Picciano, 1998; Restine, 2008d). While promoting time on task may not appear to be a rapport-building activity, Swann (2001) found that students’ regular interactions with the course led to increased perceptions of interaction with the instructor. In addition to contact with instructors and dealing with peers, interaction with content was cited as one of the important elements to be considered when developing web-based instruction (Kearsley, 1995; Klesius, Homan & Thompson, 1997; Kumari, 2001; Picciano, 1998). Instructors and instructional designers can organize the learning environment by providing online student folders for works-in-progress, electronic reserves, links to web-based resources, and assignment drop boxes to facilitate time on task from any connected location, and to assist in last-minute submissions (TLT Group, n.d.). Coursework designed to support the learning objectives of the course can include assignments and activities that assess basic understanding, more complex exercises that require students to apply concepts and principles, and more demanding, open-ended challenges requiring reflection and interpretation (Mourtos, 2010). Publicizing the time commitments of the course emphasizes the importance of time on task while communicating high expectations for students’ learning behaviors (Walker, 2002).

*Principle 6. Communicates High Expectations*

Clearly communicating high expectations sets the stage for student success by helping to define the volume and quality of interaction (Moore, 2010). Such communications must be accompanied by the instructor’s stated belief that students can
meet those expectations (Mourtos, 2010). These expectations can be presented in different ways. Establishing learning objectives provides students with a defined instructional bloc of course-wide targets when written with specific terminology that is both accurate and clear (Webb, 2009). Using comments from previous semesters’ student evaluations to create a “Realistic Course Preview” for new students provides a peer perspective (Brinthaupt, 2004). Rubrics are used to communicate the instructor’s expectations regarding students’ performance on specific assignments and activities, serve as standards upon which to base feedback, and provide additional opportunities for student-instructor contact (TLT Group, n.d.). Allgood, Risko, Alvarez, and Fairbanks (2000) stressed the importance of students’ ability to successfully achieve an understanding of assignment details, submission deadlines, and other instructor expectations for student performance. They went on to state that high levels of motivation and self-sufficiency were directly related to students’ clear and thorough understanding of their instructor’s expectations.

**Principle 7. Respects Diverse Talents and Ways of Learning**

Research shows that students can be differentiated by their learning styles; they prefer to receive different types of information via different avenues, make use of that information in different ways, and develop their understanding of that information at different speeds. One important element for effective web-based education is that instructors adapt their teaching strategies and delivery of course material to accommodate students’ diverse learning behaviors (Rovai, Ponton, Wighting, & Baker, 2007). Several studies indicated that instructors’ confirming behavior, encouragement,
and support stimulated student participation (Dallimore, Hertenstein, & Platt, 2004; Fassinger, 2000; Goodboy & Myers, 2008). Frisby (2009) noted that such behaviors served to create rapport. The visual and verbal cues of traditional classes are only approached in synchronous web conferences, chat room sessions or virtual office hour meetings. The asynchronous nature of most online communication and activity allows teachers to be more attentive to individual student queries and comments, to reflect before responding in a constructive manner, and to purposefully treat students in fair and considerate fashion (Mourtos, 2010). This is a vital rapport-building practice; students who feel at ease with their instructor are more likely to ask questions during discussions and outside of the course, to seek clarifying information concerning course content or instructions, and to put more effort into meeting the stated expectations for their performance.

Online learning environments have proven to be supportive of diverse groups of learners, especially those with disabilities. Universal design for learning (UDL) principles utilized several learning theories in guiding instructors to develop coursework for both mainstream and assisted learners. With a basis in differentiated instruction, UDL drew upon theories such as Vygotsky’s zone of proximal development (Fisher et al., 1980; Hall, Strangman, and Meyer, 2011; ) and Gardner’s multiple intelligences (Rose, Meyer, Strangman, and Rappolt, 2002), to develop instructional resources and delivery processes designed to advance students beyond their current skill and comprehension levels (Hall, 2003; Willis & Mann, 2000). Implemented through the effective use of technology, differentiated digital content matter has been rendered in print, displayed on monitors, processed by text-to-speech and graphic organizing software, projected to
large audiences, and delivered through the use of books on CD-ROM. In the same vein, learner input is facilitated through the use of voice recognition technologies and eye-tracking onscreen keyboards (Coombs 2010).

But respecting student differences has not relied as much on differentiated instructional design and the use of various technologies as it has on the efforts of instructors. Recognizing students' participation, acknowledging their value as individual contributors to the course (Ellis, 2000), and asking students for their opinions (Copeland & Warren, 2004) have demonstrated an instructor's respect for individuals' unique traits while providing additional opportunities for instructor-student contact. Utilizing different types of strategies for different students and at different stages in the course, enabled instructors to start with a flexible, yet highly structured learning environment from which students could gravitate toward more independence later in the course (Jiang, 2006). Flexibility also has also extended to instructors, where developing a “personalized pedagogy” not only allowed teachers to reach a more diverse collection of learners, but prompted them to make use of their strengths while utilizing technological resources to move past weaknesses (Marino, 2002).

Interdependent Powerful Forces in Education

Chickering and Gamson (1987) went on to state that these seven principles “employ six powerful forces in education”: activity, expectations, cooperation, interaction, diversity, and responsibility. As with the seven principles, these forces of rapport operate interdependently. As a group, they serve as the cooperative substance upon which the common themes of personal connection and enjoyable interaction are
borne. To complement such interrelatedness, this study added a third theme that drew together the dynamics of the seven principles: social presence. The concept of social presence was first identified by Short, Williams, and Christie (1976), who defined it as “the perception that one is communicating with people rather than with inanimate objects, despite being separated by geographical distance” (p. 65). Garrison (1997) defined social presence in terms of how well participants could successfully extend themselves to others through the use of technology. He went on to state that establishing social presence was more heavily shaped through peer interaction, but that teaching presence, in the form of facilitation, was essential to successful higher-order learning in online instruction.

Vesely, Bloom, and Sherklock (2007) described interaction as one of the common attributes of learning communities. Interactivity has long been seen as “a necessary and fundamental mechanism for knowledge acquisition” (Barker, 1994; p. 1). Moore (1989) actually detailed three types of interaction—learner-content, learner-instructor, and learner-learner—as foundational elements of education. He identified learner-content interaction as a “defining characteristic of education.” More recent research indicated that interaction between instructor and learner is the most important ingredient in student success (Cavanaugh, 2010). Chen, Kinshuk, Wei and Wang (2009) found that peer interaction altered student activities and thought processes in distributed learning environments. They went on to describe social presence as “the degree of feeling, perception, and reaction of being connected to other intellectual entities in a synchronous cyber classroom” (p. 42). Kehrwald (2008) extended the notion of social presence beyond real time and synchronous activity with the
observation that social presence is evidenced by such activities as posting to discussion boards, responding to the messages of others, and taking part in the various online activities of the learner group.

Other research also found that successful online teaching is heavily dependent upon an interactive environment (Cavanaugh, 2005; Draper, 2010; Friend & Johnston, 2005; Zucker & Kozma, 2003). Interactive environments built upon learning activities that include peer interaction and student-teacher communication can reduce the risk of students' isolation (Lewis and Abdul-Hamid, 2006; Ortiz-Rodrigues et al., 2005; Russo and Campbell, 2004; Song and Singleton, 2004). Combining online activities with face-to-face meetings at the instructor's office, online exchanges before or after class, and email communication can add to students' sense of rapport with instructors (Frisby, 2009; Grahe, 2007). Much of contemporary pedagogy takes the constructivist stance that activities such as these serve as the primary vehicle for learning (Mayes, 2001). For the individual student, engagement is not promoted by any one activity. Rather, it is the multiple forms of activity instructors use that serve to create and nurture the social presence of students and instructors alike (Dixson, 2010; TLT Group, n.d.).

Social Presence and Collaboration

Having online peer-to-peer and student-to-teacher relationships that are established on the basis of common interests and beliefs (Reushle et al., 1999) guarantees nothing. While social cues delivered by technological means can support the creation of a learning atmosphere, learners perceive these cues differently (Chen, 2009). And research conducted by Eastmond (1995) showed that students can have
opposite learning experiences based on their comfort level with collaborative activities. Online collaboration participants must be comfortable with and trust their instructor (Clifton, 1999; Hughes 2002). Fortunately, students view online collaboration as more than joint activities with shared responsibilities for the outcomes. Reushle and McDonald (2004) found that the exchange of ideas that took place in the online discussions were viewed as collaborative experiences. Jonassen (1998) wrote that conversation and collaboration tools enabled the learning community within a course to construct knowledge and solve problems. Reushle et al. (1999) related that students found collaborative discussions to be “is both stimulating and satisfying academically and professionally” (p. 5). While technology may enable students to connect and communicate, “in the online classroom, it is the relationships and interactions among people through which knowledge is primarily generated” (Palloff and Pratt, 1999, p. xvii).

Interaction and Social Construction

Studies have found that building rapport can have a positive influence on the learning environment by structuring social interactions and encouraging interaction by reducing anxiety (Coupland, 2003; Jorgenson, 1992). Over time, the interactions of class members raise the level of social presence through the process of “social construction” (Chen, Kinshuk, Wei & Wang, 2009). Such a construction of practices and beliefs is based upon the conditional qualities and elements of “our social selves” (Boghossian, 2005). It is facilitated by the homogenous qualities (i.e., age, education level, major) of university students. However, it has been noted that more discrete similarities amongst students and familiarity between students does not raise the levels
of perceived social presence (Chen et al., 2009). The cooperative/collaborative interaction that is inherent in this construction process serves as “a necessary component to effective online instruction” (Dixson, 2010; p. 2). Indeed, cooperation is listed as one of the top instructional methods by both learners and instructors (Gayton and McEwen, 2007; Graham et al., 2001; Levy, 2008). Knowledge is built through collaborative interactions with highly motivated learners (Fleming, 2003; Garrison & Cleveland-Innes, 2003; Reushle and McDonald, 2004); and members of collaborative pairs experience more rapport in tasks requiring both members’ input versus tasks that are more individualistic in nature (Grahe, 2007). Indeed, social construction appears to incorporate the seven principles for good practice in undergraduate education, the powerful forces operating behind these principles, and the elements of social presence to create a successful rapport-building environment.

Study Instruments

*Survey of Rapport-building Traits*

This study collected data regarding student’s attitudes towards instructors’ rapport-building traits through a Likert scale instrument (see Appendix B.1) that drew from three established Likert scale assessments (Creasey, Jarvis, & Knapcik, 2009; Crook & Booth, 1997; Gremler & Gwinner, 2000). The questions contained in these combined instruments defined subjects for the range of questions that provided rich detail about students’ attitudes and perceptions regarding student-instructor rapport.

Various functions of the statistical package SPSS™ (SPSS, 2010) were used to establish the reliability, item correlation, and principal components of the collected data.
Cronbach’s alpha is a measure of internal consistency of items in a scale. Reliability analysis produced an alpha of .901, an acceptable level of reliability. An alpha of .700 is typically viewed as the minimum acceptable level, with .800 being a “reasonable goal” (Gliem and Gliem, 2003).

Inter-item correlation describes the correlation of each item with the sum of all remaining items (Gliem and Gliem, 2003). Values of the items in this study ranged from -.94 (for humor/collaboration) to .846 (honesty/attitude), with a mean correlation of .421. While there is no established standard for an acceptable level of inter-item correlation, Netemeyer, Bearden, and Sharma (2003) cited Robinson’s identification of a correlation of .30 as “exemplary”; Clark and Watson (1991) suggested using .15 to .50 across constructs. On the basis of these statements, the mean inter-item correlation was viewed as having attained acceptable levels.

Item-total correlation is an indication of how well the items in a scale measure the same construct. Values below .20 indicate poor discrimination within the same construct; values of .20 to .39 indicate good discrimination, and higher values are viewed as very good indicators of discrimination within the same construct (Pope, 2008). Item-total correlations ranged from .248 for collaboration to .838 for interactive. Such a strong showing supported the items’ usefulness in helping to indicate a rank order of preferences based upon the quantitative criteria of median, mode, and summed scores.

Principal component analysis was performed in an effort to provide structure and clarity to the findings. Such analysis using ordinal data can render unreliable results. (vanderark, 2004). However, Kooij (2007) noted that “if all variables are Likert-type and
reliability is high... there is usually very little difference between analyzing as interval and analyzing as ordinal" (sic). The use of component analysis here was very restricted. No expected values were hypothesized, nor was any standard distribution of outcome frequencies assumed.

Principal component analysis was also used to account for the variability in the data, and to organize the variables on the basis of their possible correlation, without making assumptions regarding causality. As shown in Figure 1, the scree plot from the initial analysis of the subjects' responses reduced the data to four components. With the fourth component's eigenvalue at 1.096, there was no pronounced “elbow” in the plot.

![Scree Plot](image)

*Figure 1. Scree plot from using principal component analysis of the subjects’ responses to the survey Rapport-building Traits of an Ideal Online Instructor.*

A review of the loadings indicated a weakness in the third and fourth components (see Table D.1). Components, like factors in factor analysis, are more descriptive when
they are loaded with three or more variables (Academic Technology Services, 1995.). Doublets, components that are loaded with only two variables, fail to provide sufficient detail to define the component; and singlets, by their very nature, only represent themselves. Repeating the analysis with a forced extraction of three components produced a somewhat different loading with three viable components (see Table D.2).

Survey of Rapport-building Practices

A paired comparisons instrument used in an earlier study (Jones, Lin, Wright & Rose, 2009, p. 8) was modified to assess students’ preferences for rapport-building instructor practices. These practices were identified through a review of current literature (Chickering & Gamson, 1987; Chizmar, Walbert & Hurd, 1999; Crook & Booth, 2001; Ellis 2000; Goodboy & Myers, 2008; Graham, 1997; Moore, 1989). This second instrument incorporated key elements of Chickering and Gamson’s seven practices (1987), Palloff’s and Pratt’s positions regarding interaction in technology-supported learning environments (1999), and principles of Reushle’s and McDonald’s (2004, 2002) constructivist pedagogy. Responses to this instrument were used to create a ranked scaling of rapport-building practices and to identify inconsistencies in the logic of the subject’s choices.

The Kendall coefficient of concordance, or Kendall’s W, serves as an indicator of the strength of the agreement amongst judges (Remoy, Koppels, Van Oel, and deJonge, 2007; TalkStats, 2006). While statistically significant, the value of .3078 attained in this research (see Table F) indicated a “weak-to-moderate level of agreement” (TalkStats, 2006). Based upon findings from an earlier study of similar
nature, (Jones, Lin, Wright, Rose, 2009), this lack of agreement was not unexpected. For the purposes of this study, agreement amongst the subjects, while desirable, was not required.

More crucial was the consistency of the subjects, that is, the lack of contradiction in each of the subjects’ choices amongst the pairwise comparisons. Consistency of the judges ranged from .6929 to 1.000 (see Table F). A mean consistency of .9103 indicated a high level of uniformity in the choices made by the participants. This served to establish the credibility of the survey results.

*Semi-Structured Interviews*

Semi-structured interviews provided additional details that could not be collected with the online assessments; these helped to overcome potential flaws resulting from the small sample size. A general script for the semi-structured interviews was developed on the basis of data garnered from the earlier assessments conducted within this study (see Appendix A.1).

Each interview was conducted in separate, single sessions; Wimba Live Classroom™ was used to communicate and to record the sessions. The recordings were then downloaded from the Wimba Archives™ and preserved as Windows Media™ Files on compact discs.

*Methodological Background*

According to Lynch (2003), the value of taking a mixed methods approach was two-fold: a) the strengths of both qualitative and quantitative methods could be used to build the study; and b) such an approach might provide a more comprehensive report.
on the research phenomena. Lynch noted that there were also certain disadvantages. Those relevant to this study include the necessary training in multiple methods, the increased need for background information, and the decisions on how to deal with dissimilarities in the findings from one method to another. The proper depth and breadth of my coursework have overcome the training issue; the literature review that is part of this study provides sufficient background material. The sole remaining question lies with dealing with different results. To answer this question, we must look at the two formal data collection tools involved.

**Common Weaknesses**

Studies involving human subjects often have limitations stemming from the actions of the participants. Wagner (2005) noted that subjects were not always completely honest. In some cases, subjects answered questions on the basis of what they felt was expected. Subjects would avoid rating items as very high or very low in order to avoid being seen as an extremist, or avoided choices that might have been viewed as unpopular or socially incorrect. In addition to these between-subject comparisons, Ogden and Lo (2012) identified within-subject comparisons, where participants’ choices were affected by “where they believe they should be in their lives or where they have been in the past.” People’s responses can also be affected by how they answered previous questions. For example, having answered in agreement with a series of statements, some subjects were inclined to continue agreeing, while others deliberately disagreed in an effort to avoid creating a pattern (Changing Minds, n.d; LeMarca, 2011). Isaac and Michael (1995) detailed the problems of a) Over-rater Error,
where the participant was too lenient; b) under-rater error, where the participant was too critical; and c) Central Tendency, where participants avoided extreme scores, often due to unfamiliarity with the concepts or issues being studied.

Limitations of the Likert Scale

Participant’s concerns over what is expected or acceptable, and the possible influence of how earlier questions were answered, can affect the responses given to both Likert scale and pairwise comparison forms of data collection. However, there are several issues that are unique to Likert scale instruments.

Interval vs Ordinal Data

First and foremost is the use of Likert scale instruments to generate interval data. This is a common practice (Blaikie, 2003; Kerlinger & Lee, 2000); however, it is not without dispute (Cohen, Manion & Morrison, 2000; Knapp, 1990; Kuzon, Urbanchek, & McCabe, 1996). While response categories can have a rank order, the intervals between categorical values should not be viewed as equal (Grossnickel & Raskin, 2001; Jamieson, 2004; Kothari, 2012; LeMarca, 2011). In that this study was designed with a mixed methods treatment, several descriptive measures were used to begin the development of an accurate picture of the results. Combined with other quantitative methods, and a selection of non-parametric forms of analyses, a more thorough reporting of the results, and a subsequent greater understanding of their meaning, was obtained.
Issues with the Likert Scale

Likert scale assessments require significant amounts of decision making as participants rate their level of agreement (Gall, 2007; Wagner, 2005). In contrast, pairwise comparisons simply ask if one item is better than the other. And while responses may be identical in the Likert scale, ties generally do not occur in pairwise comparisons (Tsukida & Gupta, 2011). Extreme choices are readily apparent when made on a Likert scale; but they are less so in pairwise comparisons. High or low ratings are easily viewed, question by question, when Likert scales are used. However, multiple pairwise comparison responses would have to be analyzed before a pattern of extremism could be established. In regards to this study, it should be noted that participants did not shy away from extreme responses on the Likert scale survey, Rapport-Building Traits of an Ideal Online Instructor; four of the fifteen items (26.665%) had median scores of 7; and 10 of the items (66.67%) had mode scores that were equally high.

Of greater concern than errors caused by the subjects were the limitations stemming from the nature of the Likert scale instrument itself. Whereas pairwise comparisons deliver very definitive information, such as A being chosen over B, Likert scale items can provide only “coarsely granular” responses (Chimi & Russel, 2009). Chimi and Russel continued:

When using a Likert item instrument, the response is recorded in one of a small number of discrete categories. Summary results are limited to the count of responses in each category. The categories are intended to contain the full breadth of response on the item being studied, leading to the implicit assumption that the categories ‘Strongly Disagree’ … ‘Strongly Agree’ covers all responses…. We propose that even stronger degrees of agreement are possible (for example, ‘Absolutely Believe’ is a stronger statement of agreement than ‘Strongly Agree’). The commonplace ‘Strongly Disagree … Strongly Agree’ scale
is of such coarse granularity that it insufficiently captures the breadth and complexity of responses. (p. 2)

Tsukida and Gupta (2011) echoed this concern on the basis of inflexibility. Working with a scale of 1 to 10, they asked “what if you want to give something a 15?”

The ordinal nature of data collected through Likert scale instruments is also a concern. Given that the mode and median scores are the measures of central tendency that can be utilized, only general conclusions can be drawn from the analysis of the data. More robust forms of quantitative analysis cannot be employed here (Chimi & Russel, 2009; Hall, n.d.). And, while summed scores for each item were established in this study, this data is not used in a stand-alone sense. It is, rather, utilized to corroborate and provide finer detail to the information rendered.

**The Weakness and Strength of Pairwise Comparisons**

The sole concern with pairwise comparisons, as expressed by Tsukida and Gupta (2011), was that of “order presentation,” where the order in which the items in each pair were presented could affect the respondents’ choices. However, this issue was not viewed to be of any great concern by the authors, and was ignored during their study. The problem was minimized in this study, as all of the items were paired in such a way as to appear as either the first or second item of a pair for multiple instances. For example, the first series of pairwise comparisons matched having a sense of humor to having a positive attitude, to encouraging contact, then to active learning style, and so forth. The next series compared having a positive attitude, encouraging contact, then to active learning style, to collaboration, and on through the subsequent practices. Each series was shorter than the previous one, as the first items had exhausted all possible
comparisons; and, a new item became the first to appear. The only trait not to hold the first position in a series was organized.

The less-discriminating nature of the information that the Likert-scaled instrument provided, increased the possibility that respondents would not make selections based upon their true feelings, the limitations and inflexibility of the scale, and the coarse granularity of the responses all limited the accuracy and detail that the Likert scale instrument could provide. Conversely, the more-direct comparison of paired items, the relative ease of the decision-making process, the flexibility provided by the routine changing of first item in the pairs, and the detailed rank data provided by the extensive analysis of the responses to the survey Rapport-Building Practices of an Ideal Online Instructor made the paired comparisons a more clear and detailed source of information. For these reasons, the information provided by the latter instrument was given greater weight and consideration in instances where the results from the Likert scale items and the pairwise comparisons were conflicted.

Theoretical Approach

The theoretical foundation of this study rests upon the principles of constructivist pedagogy. As espoused by Reushle and McDonald (2004, 2002), this approach calls for faculty-student contact, active learning, time on task, communicating high expectations, promoting collaboration, and respecting students’ diverse talents. These theoretical concepts are expressed throughout Chickering and Gamson’s “Seven Principles for Good Practice in Undergraduate Education” (1987). They are further distilled into three
central themes: enjoyable interaction, personal connection, and social presence (Chen, 2009; Coupland, 2003; Gremler and Gwinner, 2000).

The concepts of enjoyable interaction and personal connection have been addressed in earlier works. Tickle-Degnen and Rosenthal (1990) spoke of and in terms of "positivity," which they described as a feeling of care and friendliness. Enjoyable interaction draws similarities to Gupta's concept of liking: a favorable association with the relationship (1983). Both concepts find a starting point in the student-centered approach of constructivism, where control of course activities is shared; this involves a certain level of trust between instructors and students, and engenders a sense of intimacy (Dobransky and Frymier, 2004). Studies indicate that social presence serves to overcome the remoteness and isolation of distance learning (Lowenthal, 2009; Rourke et al., 2001; Short, Williams, and Christie, 1976; Swan, 2003) by altering activities and thought processes through, and by making ands through technologically-based activities (Chen, 2009; Kehrwald, 2008; McInerney & Roberts, 2004; Short, Williams, and Christie, 1976). Resting this study on the theoretical constructivist concepts of Reushle and McDonald (2004, 2002) as expressed in Chickering's and Gamson's "Seven Principles for Good Practice in Undergraduate Education" (1987) provides the solid foundation of an accepted theoretical position that is supported by widely-recognized practices, while identifying the forces at work in effective instruction that also support rapport building. This set of principles also draws together a diverse collection of learning theories and practices (i.e., social constructivism, social presence, multiple intelligences, active learning, and universal design for learning) to provide a comprehensive base from which to proceed.
While the studies reviewed above have shed light on many significant rapport-building factors and processes, there is room for further research and discovery. This study serves as part of the ongoing exploration that will provide greater insight into the dynamics of rapport-building in online learning environments and, hopefully, lead to the establishment of more effective practices that will positively impact the levels and nature of instructional rapport and student learning outcomes.
CHAPTER 3

METHODOLOGY

This chapter reviews the methods used to report the research findings and discusses how the validity, rigor, credibility and ontological authenticity of the study, the transferability and confirmability of the findings, and the reliability and dependability of the study’s processes and methodologies, were established. The research combined traditional quantitative techniques with nonparametric scaling and semi-structured interviews of subjects. This approach allowed for the triangulation of the data collection efforts to provide a more thorough and descriptive presentation of results than could be garnered through any singular treatment.

Research Setting

Data generation, collection and analysis took place at a research university located in the southwestern United States. With the exception of the semi-structured interviews, the study was conducted through a pair of online surveys. The interviews were conducted with the use of Wimba Live Classroom™.

Context

The two learning management systems in use at the university at the time of the study were Blackboard® (Blackboard, 2007) and Moodle® (Moodle, 2010). Blackboard Vista® was the University’s official tool. It replaced WebCT® (WebCT, 2006), which was bought out by Blackboard® in 2006. Given this acquisition, it was quite possible that some students participating in the study had experience with WebCT®. Moodle® 2.02
was an open-source platform used by the department. The basic features of the learning management systems were similar. They incorporated the use of asynchronous discussions (forums), low- and high-stakes assessments, assignments and projects, surveys, glossaries, models, and other resources. Individual instructors were free to utilize the tools and resources in unique ways. Courses could be organized along a weekly schedule, on the basis of content topics, or on a more free-form, social format. Ultimately, the course content, resources, and assignments reflected the nature of the subject matter and the way in which each instructor wished to present the material.

Subjects

Participants in the study were undergraduate and graduate students. Most were enrolled in Education and Instructional Technology courses at the university. It was anticipated that most participants would be enrolled in an online class at the time of their involvement in the study. Current enrollment in an online course was not a condition for participation; however, experience in an online learning environment was required.

Sampling Procedure

Participation in the study was voluntary. Random sampling was not carried out. Students were invited to participate in the study either via email sent by course instructors or notices posted in their course websites. After reading a consent form, potential subjects were given the opportunity to participate through the selection of a button that initiated the first survey, Rapport-building Traits of an Ideal Online Instructor.
Participants in this survey were contacted to complete the second survey, Rapport-building Practices of an Ideal Online Instructor, through an instructor or investigator email, or a posting to the students’ course websites. At the end of this survey, participants were given the opportunity to volunteer to take part in a semi-structured interview. Indicating a preferred method of communication and providing contact information served as indications that subjects were volunteering to take part in the interviews.

Methods and Procedures for Data Generation, Collection, and Analysis

Likert Scale Survey

The review of current literature included the consideration of Likert scale instruments used in earlier studies of rapport building. This collection of instruments included a) Crook’s and Booth’s (1997) 14-item scale developed for their study on improving email communications b) Gremler’s and Gwinner’s (2000) measurement model of Customer-Employee Rapport, and c) the Student-Instructor Relationship Scale (Creasey, Jarvis, & Knapcik, 2009), a heavily reverse-coded (22 out of 36 items) instrument that examines relationship qualities with instructors. Items for this study were drawn from these instruments. Due to limitations of the RANKO scaling instrument used to analyze data from the second survey, the list was limited to 15 elements that would complement each other to provide rich detail about students’ attitudes and perceptions regarding student-instructor rapport:

- Humor: This instructor has a good sense of humor
- Attitude: This instructor displays a positive attitude
• Contact: This instructor encourages contact between students and him/herself

• Active learning: This instructor encourages active learning

• Collaboration: This instructor encourages collaboration amongst students

• Time on task: This instructor emphasizes time on task

• Diversity: This instructor respects students’ diverse talents and ways of learning

• Dependable: This instructor is dependable

• Informal: This instructor encourages informal (non-course related) communication from students

• Honest: This instructor is honest

• Organized: This instructor is very organized

• Trustworthy: This instructor is trustworthy

• Respectful: This instructor is respectful

• Expectations: This instructor communicates high expectations

• Interactive: This instructor uses an interactive teaching style

_Paired Comparisons Survey_

A paired comparisons assessment of rapport-building instructor practices was also created for this study. Based upon the review of current literature (Chickering & Gamson, 1987; Chizmar, Walbert & Hurd, 1999; Crook & Booth, 2001; Ellis 2000; Goodboy & Myers, 2008; Graham, 1997; Moore, 1989), this instrument aligned with Chickering’s and Gamson’s seven practices (1987), and Tickle-Degnen’s and Rosenthal’s (1990) “essential components” of mutual attentiveness, positivity, and coordination, and drew upon other elements of the rapport-building processes within online learning environments: interaction, sense of community, social presence,
collaboration, engagement, and immediacy (Lear, 2010; Palloff & Pratt, 1999; Patterson, 1990; Reushle & McDonald, 2004; Sadera, Robertson & Midon, 2009). Results from this assessment took the form of a ranked scaling of these practices and the identification of inconsistencies in the logic of the subject’s choices.

_Semi-Structured Interviews_

Semi-structured interviews of willing participants completed the data collection efforts; they provided the study with rich detail and helped to overcome potential flaws resulting from the small sample size. Data from the interviews were organized through the process of constant comparative coding (Glaser, 1965). This approach allowed for the separation of the data into groups that were used to identify four emergent themes. These themes were interpreted for the analysis appearing in Chapter 4 and the discussion that takes place in Chapter 5.

This use of multiple methods triangulated the research activities to collect data that, through analysis, rendered a rich account of the study’s findings. It also served to limit inherent weaknesses and biases of any one approach.

_Report on the Study_

The report on the study’s results presents a triangulated analysis of the subjects’ notions concerning what constitutes good rapport-building traits possessed by online instructors, students’ preferences for online instructors’ rapport-building practices, and semi-structured interviews that complement the more formal findings and served to put them in the proper context.
Validity, Rigor, and Trust

Scholarly investigation must establish validity and demonstrate rigor in order for the results to be viewed as trustworthy and accurate reports of the studied phenomenon. This is especially true when non-positivist methods are employed in the research. It is vital that the findings can confidently be attributed to the experimental treatment rather than to random chance or faulty design that failed account for extraneous variables (Gall, 2007; Guba, 1981). The familiar standards of validity and reliability are complemented and, in some cases, replaced with the application of credibility, transferability, dependability, and confirmability (Guba, 1981).

Rigor and Validity

Traditional discussions of rigor and validity include the consideration of extraneous variables that can impact the internal validity of a study. In positivist studies, a causal relationship between independent and dependent variables is thought to exist. This study does not look to confirm causality; it seeks to discover correlations between student beliefs concerning what constitutes good rapport-building traits in an ideal online instructor and their preferences for specific practices that can build rapport, and to rank these significant practices within the online learning environment. However, limiting or accounting for the effects of extraneous variables strengthens the validity of the study and serves to establish the rigor of the methodology (Guba, 1981). Gall’s discourse (2007) concerning these variables is supported by other’s writings (Campbell and Stanley, 1966; Cook & Campbell, 1979; Creswell, 2009; Isaac & Michael, 1997).
Several types of extraneous variables identified by Gall (2007) did not apply to this study because pre- and post-testing were not part of the methodology: a) Testing (students become “test-wise” due to exposure to the assessment pre-tests, and alter their responses when taking the post-test); b) Instrumentation (assessment instruments change; or subjects’ performance is scored higher in the post-test because raters expect to observe improvement); and c) Statistical regression [participants with (high or low) extreme scores in the pretest score closer to the mean in the post-test].

Other extraneous variables identified by Gall (2007) do not apply to this study because of the lack of separate control and treatment groups:

- Differential selection: the non-random assignment of subjects to the control or treatment groups
- Selection-maturation interaction: the non-random assignment of subjects results in the mean and range of ages of one group being significantly different from the other
- Experimental treatment diffusion: control group subjects seek or acquire access to the treatment conditions or services
- Compensatory rivalry of the control group: control group members perform better because they are competing with the experimental group
- Compensatory equalization of treatments: tangible benefits or services (similar to those) given to the treatment group are also given to control group subjects as compensation
- Resentful demoralization of the control group: members feel that the experimental group is receiving desirable benefits or treatment from the study

This leaves several extraneous variables that could affect internal validity (Gall, 2007, p. 384). History deals not only with the longevity of the study, but also what happens within the study environments during this time. The online surveys were completed within the same semester; the interviews were completed within four weeks.
after the end of the semester. To limit the impact of the elapsed time between taking the surveys and participating in the interviews, interview subjects were provided with copies of the surveys, along with their responses to each. This afforded them the opportunity to reflect on the assessment experiences as well as on their responses.

Maturation happens when subjects develop physically, mentally, or psychologically during the course of the study. With the subjects being college-aged, and with data collection occurring within a short time frame, this was not seen as an issue.

Experimental mortality occurs when subjects drop out, fail to participate in all required assessment activities, or the study is impacted by other forms of attrition. This became a factor between the first and second surveys and, to some extent, with the interviews. Subjects’ departure from the study was monitored; to offset the impact of experimental mortality, the nature of the study was altered. The proposed methodology called for an examination of possible correlations between students’ preferences for instructors’ rapport-building practices and their preferences for instructor’s rapport-building traits. The first survey, Rapport-building Traits of an Ideal Online Instructor, had 35 valid respondents, and the second, Rapport-building Practices of an Ideal Online Instructor, had 32; but only 12 of the first survey respondents participated in the second survey. Seeking to glean as much information from the data as possible, it was decided to treat the surveys as studies involving two separate samples, and to also analyze the responses of the judges who were common to both instruments.
Credibility

Corbin (Corbin and Strauss, 2008) stated that a study had credibility when “the findings are trustworthy and believable… they reflect participants’, researchers’, and readers’ experiences with a phenomenon…” and “the explanation is only one of many possible plausible interpretations possible from that data” (p302). Credibility can also be viewed as the non-positivist equivalent of internal validity, i.e., promoting the trustworthiness of the study through the consideration of extraneous variables and the limitation or control of their effects on the outcomes of the study (Guba, 1981; Lincoln & Guba, 1985). As noted earlier, several possibly extraneous variables did not apply to this study. Dealing with those that did affect the study is detailed in the section above.

In that not all extraneous variables could be eliminated, steps were taken to authenticate the data collection, analysis, and other “indications of the research process” in order to demonstrate the establishment of a study’s credibility (Corbin and Strauss, 2008). Criteria for establishing credibility included documenting a) the processes for selecting initial and subsequent samples, b) the identification of major categories, i.e., the rapport-building traits and practices that served as the items of student preference in this study, c) what lead to the identification of these categories, d) the relationships between the categories and data collection, e) the process of identifying and validating stated relationships, f) the variation of conditions under which the phenomena was studied, g) how the research process was carried out across all conditions, h) the significance of the findings, and i) how the findings contributed to the both the body of knowledge and to the ongoing discussion of the subject (Corbin & Strauss, 2008).
The process detailing the selection of samples was described in the Subjects section earlier in this chapter. The steps taken for the identification of the categories were also detailed earlier in this chapter, in the section entitled Methods and Procedures for Data Generation, Collection, and Analysis. The variety of conditions within the study and how the research process was carried out across all conditions was detailed in the Research Methods section of Chapter 1. The remaining criteria constitute the framework for the discussion of the findings.

One final means of establishing credibility is the triangulation of data (Erlandson et al., 1993; Guba 1981; Isaac & Michael, 1997; Patton, 2001). Quantitative data from the Likert item assessment served as descriptive indicators of the subjects’ responses. Qualitative data from the paired comparison survey provided insight to the subjects’ preferences regarding rapport-building practices. While limited in number, the semi-structured interviews did provide additional information that confirmed, clarified and enhanced the data collected in the formal assessments. Such contextual validation served to account for the imprecision, abstraction, faults, or limitations that may have existed in any one of the methods used.

Transferability

Transferability is determined by the extent to which a study’s findings can be applied to other similar situations and the observation of related phenomena (Lincoln & Guba, 1985). It is generally assumed that transferability is highest between environments that are similar in context (Guba & Lincoln, 1989). Perhaps because of this, Gall (2007) preferred to speak in terms of applicability, as qualitative research
relies on different methodologies and different forms of data. Stake (2005) attempted to bridge the gap between transferability and applicability by suggesting that the relating of findings from a study be best done on the basis of the cases involved, not the variables.

The phenomena, situations, or environments that this work could be applied to crosses a wide range of possibilities. Conducting similarly-themed research with traditional face-to-face courses would involve subjects who had been able to observe instructors’ visual and auditory clues, which could possibly impact preferences (Bernieri, Gillis, Davis & Grahe, 1996; Cline, 2007; Puccinelli & Tickle-Degnen, 2004; Puccinelli, Tickle-Degnen, & Rosenthal, 2003). Applying the results to K-12 students would risk involving the variability of Maturation, described earlier in this chapter (Gall, 2007). The determination of transferability rests largely upon those seeking to utilize the study’s findings elsewhere (Lincoln & Guba, 1985). However, this study’s potential for transferability is strengthened by the collection of information that provides a thorough account of the subjects, setting, and other contextual elements of the study that are necessary for the findings to be understood; those attempting to generalize these findings can identify the similarities in context between this study and their situation of interest (Gall 2007; Lincoln & Guba, 1985).

Reliability and Dependability

Thirty years ago, Guba broadened the idea of reliability, preferring to evaluate naturalistic studies in terms of their dependability (Guba, 1981). The author sought to accommodate the unavoidable changes in physical reality as well as account for the effects of independent variables and environmental changes created by the study
design. Dependability does not require a consistent replication of results; it does, however, rely upon a consistency and objectivity of process and methodology (Erlandson et al., 1993; Lincoln & Guba, 1985) while documenting and accounting for changes in the research setting and their effects on the study (Trochim & Donnelly, 2007). This study was carried out and documented so that observers of the process or results will view them as objective and valid. The use of multiple qualitative assessments and the triangulated collection of data, as described above, support the dependability of the findings.

Documentation of approval from the Institutional Review Board of the University of North Texas is included. (see Appendix C.1). All physical and electronic data recordings will be destroyed at the conclusion of the project, in accordance with the specifications set forth by the IRB at the time of the study’s approval.

**Confirmability**

In quantitative studies, there is an inherent degree of difficulty in establishing true objectivity. Data collection methodologies and instruments developed by people are subject to their biases (Patton, 1990), as are interpretations of the data. Efforts to establish similar criteria for qualitative research not only faced the issue of investigator bias, but had to accommodate it; for the very nature of qualitative study rests on the belief that each researcher brings their personal standpoint to their work. As part of the efforts to establish standards of legitimacy to qualitative research, the notion of confirmability was put forth (Lincoln and Guba, 1985). Confirmability is dependent upon the demonstration that findings of the study result from the research effort being
successfully carried out by an impartial researcher and that the findings are based upon the subjects’ preferences and choices as expressed through their responses (Erlandson et al., 1993; Shenton, 2004). It ensures that study results stem from reasonable and logical interpretations of the subjects’ actions and responses (Lincoln & Guba, 1985).

Confirmability has been established through the detailed description of the development of the study’s data generation, collection, and analysis processes have been described. This study was not driven by a formal set of hypotheses; there was no target that the data had to lead this study to, no philosophical stand that the findings would hopefully support. While I did select the traits to be included in this study, the choices were made on the basis of the review of existing literature and examples put forth by existing, proven instruments. The data collection process and the triangulation of that collected data also served to support the confirmability of the findings. Both surveys relied on direct input from the subjects, with no influence from others beyond the original selection of the traits for inclusion in the study. And the semi-structured interviews allowed the subjects to address the issues of this study, and to corroborate the findings from the formal assessments in their own words.

**Authenticity**

Authenticity is defined as an element of naturalistic research wherein research findings “show a range of different realities… with depictions of their associated concerns, issues, and underlying values” (Tobin and Begley, 2004). Developed as a response to criticism of the naturalistic “trinity of truth”-- validity, reliability and generalizability (Christians, 2000; Guba and Lincoln, 1994), it acknowledges that
similarities to positivist measures would bring this new standard into question. This study was most concerned with ontological authenticity—the demonstration of a more thorough understanding of the participants’ perspectives. For the purpose of this study, ontological authenticity established the subjects’ right to be heard. Reflecting upon, and voicing, their perceptions and learning through the surveys and the semi-structured interviews created a metacognitive experience that allowed the subjects to carry what they’ve learned about their beliefs and personal preferences beyond any course, and to apply this self-knowledge to future web-based instruction. The qualitative assessments provided this type of experience to the participants. Participation in the semi-structured interviews gave the subjects’ an even greater voice in the study while providing additional opportunities to engage in reflection, and to reinforce their beliefs, perceptions and self-knowledge so that they will be more able to carry these discoveries into future learning environments.

Inclusion of the semi-structured interviews was meant to provide participants with the opportunity to more thoroughly develop and understand how their beliefs and perspectives played a role in this study. The ontological authenticity of the study was advanced with the successful capture and accurate reporting of the participants’ experiences and reflective voicings; the integration of these reports with the collected data was done in such a way that the proceedings, methodologies, and findings could be read and easily understood by both stakeholders in the process and independent readers of the report.
Summary

This study examined student beliefs about rapport building and preferences for rapport-building strategies in college-level online learning environments. The design was based upon concepts and treatments that emerged from a review of the existing literature addressing the study of rapport and related issues of communication, social presence, interaction, and engagement; it identified the subjects’ origins as well as the context in which the study took place. This report went on to detail the data generation, collection, and analyses procedures used in the research. It discussed how the processes involved in the study were implemented and documented so that the criteria of validity, rigor and trustworthiness were met, and were complemented, with demonstrations of credibility, transferability, dependability, and confirmability.

The importance of this study lies not only in its efforts to further our understanding regarding students’ views on rapport-building in online learning environments. The identification of the specific rapport-building practices that students respond positively to opens the door to richer student-instructor relationships and improved course management. Given the documented correlation between positive student-instructor relationships and learning outcomes (Creasey, Jarvis, & Gadke, 2009; Creasey, Jarvis, & Knapcik, 2009; Frisby, 2009; Reushle & McDonald, 2004) the findings of this study provide instructional designers with a valuable tool for creating more effective online learning environments, could advance the development of pedagogy for online instruction, and assist students in understanding how their preferences for rapport-building practices could lead to increased satisfaction and improved learning outcomes.
CHAPTER 4
DATA ANALYSIS

This chapter presents data regarding the subjects’ demographic findings and the analysis of the responses to questions in the formal assessments and the semi-structured interviews.

Demographics

A total of 63 subjects participated in this study. Eight were disqualified for failing to complete the surveys. Of the remaining 55 subjects, 65.45% \( (n = 36) \) were female and 34.55% \( (n = 19) \) were male. Ages of the subjects ranged from 19 to 61 years. The mean age was 34 years; the median was 31 years of age. Age categories with ranges of 19-23 \( (n = 17) \), 24-31 \( (n = 11) \), 32-42 \( (n = 12) \), and 47-61\( (n = 15) \) aligned the age distributions of subjects from each of the two surveys. All four age categories were well represented.

Enrollment categories were created to identify whether the participants were currently enrolled in an online course at the time of the study \( (n = 47) \), had been enrolled in either the previous semester \( (n = 4) \) or the previous year \( (n = 3) \), or had not been enrolled in an online course for over a year \( (n = 1) \). Unlike the broad distribution across the age categories, the category of currently-enrolled in an online course captured an overwhelming majority of the subjects, with membership in the remaining categories falling in accordance with the amount of time that had elapsed since enrollment in the last online course.
An experience category rounded out the collection of demographic information; subjects identified themselves as being enrolled in their first online course at the time of the study \( (n = 3) \), or had been enrolled in either two to five courses \( (n = 21) \), six to ten \( (n = 8) \), or more than ten online courses \( (n = 23) \). The distribution of the subjects was not as diverse as with the age categories, nor as slanted as with the enrollment categories. However, neophytes were definitely in the minority, with most subjects reporting moderate to extensive experience with online courses.

The Survey Rapport-Building Traits of an Ideal Online Instructor

A total of 38 subjects responded to this first survey; of these, the responses of three subjects were discarded for their having failed to complete all questions. Of the remaining 35 subjects, 60\% \( (n = 21) \) were female and 40\% \( (n = 14) \) were male. Ages of the subjects ranged from 19 to 61 years. The mean age was 34 years; the median age was 29 years. Distribution was near-even across the age categories of 19-23 \( (n = 10) \), 24-31 \( (n = 8) \), 32-42 \( (n = 8) \), and 47-55 years \( (n = 9) \).

Eighty percent of the subjects \( (n = 28) \) were enrolled in an online course at the time of their participation in the study; another 8.57\% \( (n = 3) \) had been enrolled in the previous semester, with a like number having been enrolled within the last year; 2.86\% \( (n = 1) \) had not taken an online course in over a year.

Only 5.71\% \( (n = 2) \) of the subjects were enrolled in their first online course when they participated in the study. Another 40.0\% of the subjects \( (n = 14) \) had taken between two and five online courses; 11.43\% \( (n = 4) \) had taken between six and ten online courses; and 42.86\% \( (n = 15) \) had taken more than ten courses online.
The Survey Rapport-Building Practices of an Ideal Online Instructor

A total of 37 subjects responded to the final survey; the responses of five subjects were discarded for their having failed to complete all questions. One subject faced elimination for having selected “I have never taken an online course” in response to the last demographic question; however, it was determined that the subject was currently enrolled in an online course. The sample for the second survey was 78.1 % female \((n = 25)\) and 21.9% male \((n = 7)\). Ages ranged from 20 to 55 years. The mean age was 35 years; the median was 31.5 years. Compared to the first survey, distribution of the subjects across the age categories slightly favored the youngest \((19 – 23\) years and \(47 – 61\) years \((both\ n = 9)\); this was followed by the second-oldest age category of \(32 – 42\) years of age \((n = 8)\); the final age category of \(24 – 31\) years had the fewest number of subjects \((n = 6)\).

A majority of the subjects of this survey \((90.63\%, n = 29)\) were enrolled online at the time they participated in the study; 6.25% \((n = 2)\) of the remaining students had taken an online course during the past semester, while one \((3.12\%)\) had taken an online course within the past year. Only one of the subjects \((3.12\%)\) was enrolled in an online class for the first time when the study was conducted; 40.63% of the subjects \((n = 13)\) had taken between two and five online courses; 18.75% \((n = 6)\) had taken between six and ten courses online; another 37.5% \((n = 12)\) of the subjects had taken ten or more online courses.

Subjects Common to Both Surveys

In spite of specific directions to recruiting instructors and notifications at the start
of the second survey, a majority of the subjects to Rapport-building Practices of an Ideal Online Instructor had not completed the earlier survey, Rapport-building Traits of an Ideal Online Instructor. Of all of the qualifying subjects, only 12 ("the 12 common subjects") successfully completed both surveys. Of these, 83.33% ($n = 10$) of the subjects were female; 16.67% ($n = 2$) were male. The distribution of subjects was fairly even running slightly weighted to the older age categories of 47-61 (25%, $n = 3$) years and 32-42 years of age (33.33%, $n = 3$); only three subjects (25%) were in the 19-23 category, while 16.67% ($n = 2$) were in the category of 34 – 31 years of age.

All 12 of the subjects had taken multiple courses online; 41.66% ($n = 5$) had taken 2 – 5 courses, 25% ($n = 3$) had taken 6 – 10, and 33.33% ($n = 4$) had taken 10 or more online courses. All but two of the subjects (83.33%, $n = 10$) were enrolled in an online course at the time of the study; the remaining two (16.67%) had taken their last online course within the previous year.

Semi-structured Interviews

Semi-structured interviews of willing participants completed the data collection efforts. Of the 12 eligible subjects, only two agreed to take part in the interviews. "Anna" was 51 years of age and was an economics instructor at an area university. “Betty” was 49 years of age and was an instructional designer at another university in the area. Anna had taken an online course within the last year; and had taken a total of 6 - 10 online courses. Betty was enrolled in an online course at the time of the study; she had taken over ten courses online.
Data Analysis Procedures

This section begins with a review of the methods used to analyze the data that was collected through the surveys and semi-structured interviews. It identifies the major themes that were important to the study; and explains the details and meanings of the analyzed results.

Survey of Rapport-Building Traits of an Ideal Online Instructor

A 15-item Likert-scaled instrument was utilized to determine students’ preferences for instructors’ rapport-building traits. Principal component analysis was performed to help confirm the existence of the two theorized constructs of personal connection and enjoyable interaction. Gremler’s and Gwinner’s study (2000) put forth the belief that these two themes characterized the most prominent aspects of rapport. As such, they are used in this study to help define the variable loadings within the components identified through this analysis.

The scree plot in Figure 1 above shows that the initial analysis of the subjects’ responses reduced the data to four components. Weakness in the third and fourth components (see Table D.1) prompted further analysis with a forced extraction. This resulted in a somewhat different loading with three viable components (see Table D.2). The already-defined constructs of enjoyable interaction (Component 2) and personal connection (Component 3) were complemented with the emergence of social presence (Component 1). As described in Chapter 2, social presence serves to create the perception that students and instructors are communicating with each other, rather than with a user interface, server, or other manifestation of technology (Garrison, 1997;
Short, Williams, and Christie, 1976). This component represented not only the largest assortment of traits, but was also the collection that, at face value, appeared to have the strongest correlation to the creation of instructor rapport with students. Most of the traits were instructor-based; and the pedagogy-based traits of interactive and active learning supported engagement between peers, students and instructors that helped to create the perception that students were interacting with people, not merely technology. Because of this, the term social presence is used in this study to define the variable loadings of this component,

In addition to loading into their main components, several traits influenced one of the other constructs: interactive loaded to social presence, but also played a noticeable role in personal connection; expectation, in enjoyable interaction, also figured noticeably in the social presence construct; and respectful, which loaded to personal connection, also appeared in the social presence component. This crossing-over endorses the observation noted in Chapter 2 that activities supporting one of the seven principles often applied to others.

Rapport-Building Practices of an Ideal Online Instructor

The analysis of the second survey instrument utilized two nonparametric scaling methods. RANKO provided rank data for the different items; TRICIR, offered data concerning logical inconsistencies associated with the choices made by the subjects.

Pairwise Comparisons

The scaling program RANKO yielded the item rank values for each subject, rank
sum totals and scale scores for each item, and a linear plot of the scale scores; it also identified the rank sum differences between the items. Rank values indicate the order in which the values would be placed if the data representing the subjects’ responses were sorted. A table of item rank values details the differences in item preferences that were established by the subjects’ responses (see Table E.1). Identical values for a subject indicate the presence of circular triads. In such cases, the mean of the three rank values is assigned to each of the three items involved (Dunn-Rankin et al., 2004).

It was noted that Subjects 21 and 30 shared the same set of rank values. An analysis of their individual responses showed that different choices were made throughout the survey. This lead to the conclusion that the rank values resulted from RANKO’s processing of the data rather than as a result of subject fatigue, disinterest, or collaboration.

Rank sum totals represented the aggregate of all subjects’ rank values for each instructor practice. The minimum rank sum total for each practice was 32 (32 subjects * 1, the first, or lowest, position of the ranking); the maximum was 480 (32 * 15, the highest position of the ranking). The 32 participants’ responses resulted in a wide range of rank sum totals (see Table E.2). Most notable was the significantly higher total for the practice honest (365) and the pronounced low total for the practice of humor (87).

Scale scores facilitate analysis and interpretation by presenting ranking information in a more readily understandable 0 – 100 scale; they are directly proportional to rank totals (Dunn-Rankin et al., 2004). The linear depiction of this range in Figure 2 helps to place these scale scores in perspective:
The presence of circular triads helps to establish subject consistency in studies employing pairwise comparisons. They are especially useful when inter-subject agreement does not play a significant role in the study (Dunn-Rankin et al., 2004). Circular triads exist as a result of logical inconsistencies: a subject is offered paired comparisons of three objects, and the responses are that A > B, B > C, and C > A, where > indicates “is chosen over” (Dunn-Rankin et al., 2004).

An analysis utilizing the scaling program TRICIR revealed that the 32 subjects' choices amongst 105 pairs of instructor practices resulted in a total of 402 circular triads. The number of circular triads associated with each practice ranged from 25 for honesty to 149 for time on task (see Table G). The number of votes received by each practice indicated the total number of times that it was selected. The number of votes received by the different practices ranged from 36 for expectations to 280 for diversity (see Table G). TRICIR used these raw vote counts to produce scaled scores that provided a more standard frame of reference (the range 0 to 100) with which the objects’ ranks could be more clearly
interpreted. As with the scaled scores derived from the rank totals, the linear depiction in Figure 3 helps to place these scores in the proper perspective.

![Figure 3](image.png)

*Figure 3.* Linear plot of scale scores derived from the number of votes recorded in the survey Rapport-building Practices of an Ideal Online Instructor.

Fifteen items creating 105 pairs of objects (15 items × 14, divided by 2) established a critical value of 97 at the $p = .05$ level for individual subjects (Dunn-Rankin et al., 2004). The creation of more than 97 circular triads by an individual would suggest that the subject was either making random choices or was not competent enough to properly participate in the survey. In either case, the data associated with this subject would be removed from the study. Fortunately, the circular triads created by the subjects ranged from six who created no circular triads to one subject who accounted for 43 (see Table F). While RANKO was unable to establish statistically significant differences between items (at the $p = .05$ level), due to the limited number of subjects, TRICIR identified 12 statistically significant pairs of items. Seven (58.3%) of these involved the trait humor as the significantly-preferred item; two pair included diversity as the non-preferred item, and another two pair (12.5%) featured diversity over less-significant items.
Semi-Structured Interviews

Semi-structured interviews of willing participants completed the data collection efforts. The original intent was for information from the interviews to provide additional details that could not be collected in the more-structured assessments; this would help to overcome potential flaws resulting from the small sample size. Only two participants self-selected to participate in these follow-up interviews; a separate interview session was conducted with each. Anna was more positive in her responses to the survey Rapport-building Traits of an Ideal Online Instructor, with nine traits ranked as 7 in importance; Betty ranked only four traits that high. While both subjects viewed many of the same items as important (rated 5 or higher), Table 1 shows how they ranked these items differently.

Table 1

*Interviewees’ Rating and Ranking of Items in the Survey Rapport-building Traits of an Ideal Online Instructor*

<table>
<thead>
<tr>
<th>Rating</th>
<th>Anna</th>
<th>Betty</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Attitude</td>
<td>Trustworthy</td>
</tr>
<tr>
<td></td>
<td>Contact</td>
<td>Respectful</td>
</tr>
<tr>
<td></td>
<td>Active learning</td>
<td>Interactive</td>
</tr>
<tr>
<td></td>
<td>Dependable</td>
<td>Organized</td>
</tr>
<tr>
<td></td>
<td>Honest</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Diversity</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Expectations</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Time on task</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Informal</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Humor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collaboration</td>
<td></td>
</tr>
</tbody>
</table>

Table 1
With the second survey, Rapport-building Practices of an Ideal Online Instructor, consisting of pairwise comparisons, items could not be ranked directly. Rather, the rankings of the items were established from the rank sum total of the choices made by the individual subjects. Table 2 shows that, as with the first survey, the two interviewees’ responses rendered both similarities and differences.

Table 2

Scaled Scores of Items in the Survey Rapport-building Practices of an Ideal Online Instructor

<table>
<thead>
<tr>
<th>Scaled Score</th>
<th>Anna</th>
<th>Betty</th>
</tr>
</thead>
<tbody>
<tr>
<td>78</td>
<td>Time on task</td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>Diversity</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>Time on task</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>Contact</td>
<td>Diversity</td>
</tr>
<tr>
<td>50</td>
<td>Dependable</td>
<td>Collaboration</td>
</tr>
<tr>
<td></td>
<td>Honest</td>
<td>Dependable</td>
</tr>
<tr>
<td></td>
<td>Organized</td>
<td>Honest</td>
</tr>
<tr>
<td></td>
<td>Respectful</td>
<td>Interactive</td>
</tr>
<tr>
<td>43</td>
<td>Attitude</td>
<td>Active learning</td>
</tr>
<tr>
<td>36</td>
<td>Active learning</td>
<td>Organized</td>
</tr>
<tr>
<td>29</td>
<td>Humor</td>
<td>Contact</td>
</tr>
<tr>
<td>21</td>
<td>Interactive</td>
<td>Trustworthy</td>
</tr>
<tr>
<td>14</td>
<td>Collaboration</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Informal</td>
<td>Respectful</td>
</tr>
<tr>
<td></td>
<td>Expectations</td>
<td>Expectations</td>
</tr>
<tr>
<td>0</td>
<td>Trustworthy</td>
<td>Humor</td>
</tr>
</tbody>
</table>
After collection, analysis began by reviewing the recordings. Using HyperRESEARCH™ (HyperResearch, 2011), software developed to assist qualitative analysis, the data was read through and coded. This process produced seven major themes that were deemed important to the study (Creswell, 2009).

Rapport-Building Practices that Contributed to Understanding

These practices facilitated the students’ efforts to make a connection between course content and real life. They helped to make the information more personal. The interactions that these practices employed or initiated aided retention through meaning-making. They enabled the instructor to express what was needed to learn and to succeed in the course. These practices allowed, and at times forced, students to “think outside of the box” on the path to developing deeper understanding. As Anna stated, “It is easier to learn from an instructor with whom one has rapport.” In contributing to students’ knowledge, understanding, and progress, these practices supported a healthy and positive online experience.

Rapport-Building Practices that Affected the Online Learning Experience

These practices were the essence of enjoyable interaction and personal connection. They served to connect instructors to students. And they also allowed an “out of the box person,” as Anna called herself, to do better in an environment where differences were respected. By providing opportunities for communication and interaction, instructors and students developed and demonstrated their commitment to the students’ learning.
Combinations of Practices that Build Rapport

In some cases, instructors’ practices were made more effective when used in conjunction with other practices. The examples offered by the two subjects were very subjective, moving beyond a mere reflection of personal experiences to include their personal definitions of the traits and practices. A stated relationship between honesty and being dependable was not surprising until Betty tied these to helping a student keep focused. In other statements, both Anna and Betty linked time on task to honesty and expectations, and showed how the latter could be tied to fair treatment of all students, but separated from diversity.

The Role of the Student-Instructor Relationship

Based upon the comments of both subjects, the responsibility for a positive and meaningful relationship between instructor and students rested primarily with the instructor. In response to the question “Can you have good rapport without the instructors being a friend?” Betty stated that a sense of togetherness, which she related to social presence of the instructor, made for a better course experience. However, she noted that students were not always open to having a sense of togetherness or community. And that such a sense of togetherness could develop while still maintaining the teacher-student power relationship. Indeed, Betty rated several traits as “5,” as she felt that they represented the removal of power in (student-instructor) relationships in favor of a “friend relationship.” She went on to state that “Rapport does not equate to a friendship relationship” and felt that “If you’re friends with an instructor, you can
manipulate them.” Betty concluded by stating that power relationships should be in place in a learning environment.

Factors Related to Changes in Priorities

Differences in the ways items were ranked in the survey Rapport-building Traits of an Ideal Online Instructor compared to the survey Rapport-building Practices of an Ideal Online Instructor were also very subjective. Explanations for these changes were rooted in Betty’s questioning of her use of rapport-building practices in her own work and changes in Anna’s personal interpretations of a trait’s definition as a result of her observation of the traits in use that took place in the time between her participation in the two surveys.

Factors Related to the Creation of Circular Triads

Circular triads could possibly be caused by the belief that the importance of the items was more clearly established within the context of specific situations. Anna’s thoughts on the importance of collaboration, reflected, her actual experiences that had shown that encouraging collaboration was not always successful. Thus, she viewed this trait as less critical when compared to other items.

Subjects' Reflections on the Study

Both subjects felt that the second survey was extremely long. Betty suggested that future iterations of the survey instruments include demographic questions that would identify international students and ethnicity, as this would help to explain outliers
that were based upon language or cultural influences. Anna would add “instructor is a good communicator” (or “instructor has good communication skills”) to the list of traits.

While the small number of participants in the semi-structured interviews limited the amount of data that was collected, the information was included for purposes of clarification; no attempt was made to generalize the implications that were drawn.

Summary

Unplanned aspects of the subject participation forced changes to this study. These issues are discussed in Chapter 5. In spite of the adjustments to the scope and procedure of the research, the use of multiple methods still served to triangulate the findings so that the collected data rendered a more thorough account of the study. This also served to limit inherent weaknesses and biases of any one approach. The research offers a meaningful assembly of information that details students’ views and values concerning rapport-building traits and practices of online instructors. An analysis and discussion of these findings are presented in the next chapter.
CHAPTER 5
DISCUSSION

This study investigated students’ views on rapport-building traits and practices of instructors working in online learning environments. This chapter answers the research questions that were presented in Chapter One. It begins with a discussion of the major findings of the study. It details how the subjects in the study perceived the importance of rapport-building traits and successfully established a rank order of these traits. It also provides similar treatment and analysis of the subjects’ views and preferences regarding instructors’ rapport-building practices. Next, this chapter reviews the major rapport-building components that were identified in this study, and discusses the traits and practices that comprise these components. The chapter continues with the identification of the major themes that emerged from the semi-structured interviews. It finishes with a discussion of issues that affected the research.

The Importance of Rapport-Building Elements

Camianne (2010) asked “how can instructors establish rapport in an online course with students they never physically see?” The idea of having strong rapport in online learning environments is popular with instructors (Coupland, 2003; Reushle, 2004; Sull, 2006;) as well as students (Catt, Miller, & Schallenkamp, 2007; Faranda & Clarke, 2004; Williamson. 2009). However, successful rapport-building may have less to do the instructor’s attempts at being friendly, using accommodating pedagogy, or adhering to certain learning theories and employing related approaches and practices, and more to do with possessing character traits and practicing behaviors that work with
proper pedagogy, and can be conveyed within a technology-based learning
environment, to support social presence.

Rapport-building Traits

As shown in Table 3, the responses to the Likert-item survey Rapport-building
Traits of an Ideal Online Instructor indicated a preference for the traits that were more
related to an instructor’s personality.

Table 3

<table>
<thead>
<tr>
<th>Trait</th>
<th>Median</th>
<th>Mode</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honest</td>
<td>7</td>
<td>7</td>
<td>226</td>
</tr>
<tr>
<td>Dependable</td>
<td>7</td>
<td>7</td>
<td>225</td>
</tr>
<tr>
<td>Respectful</td>
<td>7</td>
<td>7</td>
<td>220</td>
</tr>
<tr>
<td>Attitude</td>
<td>6</td>
<td>6</td>
<td>218</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>7</td>
<td>7</td>
<td>217</td>
</tr>
<tr>
<td>Organized</td>
<td>6</td>
<td>7</td>
<td>212</td>
</tr>
<tr>
<td>Contact</td>
<td>6</td>
<td>7</td>
<td>210</td>
</tr>
<tr>
<td>Active learning</td>
<td>6</td>
<td>7</td>
<td>209</td>
</tr>
<tr>
<td>Interactive</td>
<td>6</td>
<td>7</td>
<td>201</td>
</tr>
<tr>
<td>Expectations</td>
<td>6</td>
<td>6</td>
<td>200</td>
</tr>
<tr>
<td>Diversity</td>
<td>6</td>
<td>7</td>
<td>200</td>
</tr>
<tr>
<td>Time on task</td>
<td>5</td>
<td>6</td>
<td>182</td>
</tr>
<tr>
<td>Collaboration</td>
<td>5</td>
<td>7</td>
<td>182</td>
</tr>
<tr>
<td>Humor</td>
<td>5</td>
<td>5</td>
<td>169</td>
</tr>
<tr>
<td>Informal</td>
<td>5</td>
<td>5.7</td>
<td>150</td>
</tr>
</tbody>
</table>

The character traits of being honest, dependable, respectful, and attitude
garnered the highest median and mode scores. Penultimate scores found the character
traits of trustworthy, organized and diversity bracketing the pedagogical traits of contact, active learning, interactive, and expectations.

The trait attitude occupies an unusual position in these rankings. While achieving a fourth-highest sum score of 218, its mean and mode scores of 6 place it below the top tier of traits. This situation serves to illustrate the danger of treating ordinal Likert scale results as interval data, and using this data to generate stand-alone quantitative results. While garnering the highest number of combined subjects ratings of 6 ($n = 14$) and 7 ($n = 18$), this item was also rated at 2 by one judge and at 5 by another two judges, thus lowering its sum score.

Of the remaining traits occupying the lower end of the rankings, collaboration stood highest; humor and informal completed the set. While it would be irresponsible to rely on ordinal data as a stand-alone demonstration of student preferences, it would also be imprudent to ignore the general implications of such data when they corroborate other findings of the study. The summed scores of students’ perceptions indicate a preference for character over pedagogy, with honest, dependable, respectful, attitude, trustworthy and organized garnering the highest summed scores. It is interesting to note that humor and informal, two traits that would appear to support the building of rapport, rated the lowest median, mode, and summed scores.

Reviewing the primary component analysis of the survey responses (see Table D.2) showed a similar preference for personality over pedagogical traits. The traits dependable, trustworthy, honest, organized, attitude, and diversity made the strongest showing and comprised over half of the items in Component 1 (social presence).
Rapport-Building Practices

While differing from the Likert-item survey in terms of rank order, the responses to the pair-wise comparison survey Rapport-building Practices of an Ideal Online Instructor also indicated a preference for practices related to an instructor's personality over those related to pedagogy (see Table E.2).

The character-based practices of honest, dependable, diversity, organized, and respectful ranked highest. With a rank total of 278 and a scale score of 55, interactive was the highest-ranking pedagogical practice. Being trustworthy ranked seventh, followed by the pedagogical practices of emphasizing time on task, expectations, active learning, collaboration, informal, and contact. Attitude and humor ranked the lowest of all practices.

TRICIR provided data on the number of circular triads, or logical inconsistencies, that were created as a result of the subjects choices made in the survey Rapport-building Practices of an Ideal Online Instructor. However, it also provided quantitative data in the number of votes recorded for each item, i.e., the number of times each item is selected over the other item of the pair (see Table G.1).

Results from ranking on the basis of counting the item’s votes departed from the trends of the other assessments, as pedagogical practices fared better. Whereas instructor-based practices occupied the top five spots in the previous rankings, time on task and active learning occupied the second and fourth positions in terms of the number of votes received. It is interesting to note that while these two were amongst the lowest-ranking in the results stemming from analysis of the survey Rapport-building Traits of an Ideal Online Instructor, they were the two highest-ranking pedagogical items.
in the analysis of the pair-wise comparisons of the survey Rapport-building Practices of an Ideal Online Instructor. This dissimilarity, along with the higher placement of the other pedagogical items is discussed in the next chapter.

Answers to the Research Questions

The use of a mixed methods approach in this study was geared towards supplying multiple sets of converging data that would establish the credibility of the study by providing a triangulated view of the results. The use of the Likert-item survey to produce ordinal data laid the foundation for further clarification through component analysis, pairwise comparisons, and semi-structured interviews. Quantitative data from the Likert item assessment served as descriptive indicators of the subjects’ attitudes towards instructors’ rapport-building traits. Qualitative data from the paired comparison survey provided a comprehensive understanding of the subjects’ preferences for rapport-building practices. While limited in number, the structured interviews provided additional information that further explained the collected data.

As is done throughout this chapter, all forms of data collected in this study were used to answer the first two research questions. For the sake of simplicity and where appropriate, when discussing both rapport-building traits and practices, the two are referred to as “elements.”

Research Question 1. Is There a Rank Order of Rapport-building Elements Possessed and Utilized by Online Instructors?

While the subjects participating in the survey Rapport-building Traits of an Ideal Online Instructor rated all of the items favorably (a median of 6 and a mode score of 7
on the seven-point Likert scale), a definite ranking emerged. The elements of honest, dependable, trustworthy, and organized were all viewed as very important, placing as four of the top-five ranked items. This appreciation was confirmed in the Primary Component Analysis, where these elements were the four highest in accounting for variability in the data and were the four strongest items within the social presence component. The importance of these elements was further confirmed through the RANKO analysis of the pair-wise comparisons comprising the survey Rapport-building Practices of an Ideal Online Instructor, which placed these four within the top six rank positions. Also ranking highly were the elements of trustworthy and respectful, although the latter’s rankings were not as consistent across the different analyses. The importance of these elements was underscored in comments made during the semi-structured interviews. Betty stated that “Dependability shows the instructor’s commitment to the students,” and tied this to being responsible. Anna felt that organization was “essential”; and that an instructor’s honesty and dependability helped her to keep focused; not having to deal with uncertainty and unexpected change was an important benefit of instructor-student rapport, as it made for a more stable and supportive learning environment.

Structuring the rapport-building traits into primary components was an important step, as it served to organize the different elements into groups with ranked importance. Principal component analysis identified enjoyable interaction and personal connection as prominent issues in rapport-building, and pinpointed elements that comprised these two components (see Table 4). A third and stronger component, that of social presence, accounted for 9 of the 15 elements, 6 of which were related to personality rather than
pedagogy. The instructor-related practices of dependable, trustworthy, honest, organized, and attitude served as the strongest elements of this component; also included were the pedagogical elements contact, active learning, interactive, and diversity.

Research Question 2. What are the Major Rapport-building Components in Online Learning Environments?

Principal component analysis supported Gremler's and Gwinner's (2000) contention that enjoyable interaction and personal connection serve as prominent issues in rapport building, and identified elements that comprised these two components. As shown in Table 4, enjoyable interaction encompassed the pedagogical activities of emphasizing time on task, encouraging collaboration, and communicating high expectations. Personal connection was established through the practices of encouraging informal communication, exhibiting a sense of humor, and being respectful.

Table 4

<table>
<thead>
<tr>
<th>Social Presence</th>
<th>Enjoyable Interaction</th>
<th>Personal Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependable</td>
<td>Time on task</td>
<td>Informal communication</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>Collaboration</td>
<td>Sense of humor</td>
</tr>
<tr>
<td>Honest</td>
<td>High expectations</td>
<td>Respectful</td>
</tr>
<tr>
<td>Organized</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive attitude</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encourages contact</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interactive style</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respects diversity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Through this analysis, a third and stronger component, that of social presence, emerged. Indeed, elements of this component accounted for the majority of the variability within the data and established social presence as the most wide-ranging and influential component. Social presence accounted for 9 of the 15 elements, 6 of which were related to the instructor rather than pedagogy. The instructor-related practices of being dependable, trustworthy, honest, and organized, and displaying a positive attitude served as the strongest elements of this component, that also included the pedagogical practices encourages contact, active learning, utilizing an interactive style, and the instructor-related practice of respects diversity.

Research Question 3. What Major Themes Exist Regarding the Study of Rapport-Building Elements in Online Learning Environments?

The semi-structured interviews were included in this study so to provide an additional source of data using another collection methodology. While limited to only two participants, the interviews supplied information that corroborated the findings of the other forms of collected data. Analysis of the recordings using HyperRESEARCH® (HyperResearch, 2011) identified the major themes that were deemed important to the study (Creswell, 2009) and provided the answers to this third research question.

Rapport-Building Practices that Contributed to Learning

These practices strengthened the ties of instructor-student rapport by facilitating the students' efforts to make a connection between the course content and real life and by making the information more personal. Instructors who employed an interactive teaching style contributed to students' retention of content and understanding of the
course material; the interactive give-and-take establishes the course material’s personal significant meaning within the students while creating and maintaining rapport with the instructor. Betty stated that this interaction contributed to rapport as it aided retention through making meaning. She felt that instructors who emphasized time on task were very sincere in their interest in the students’ success; she asserted that this built trust and helped strengthen rapport with students. She held a very broad view, stating that “task” could include reading, writing, analyzing, communicating on the material through discussion boards or face-to-face, in fact, any activity that contributed to “immersing oneself in the material.” Betty went on to state that when an instructor emphasizes time on task, there is a shared commitment by both the instructor and student to spending time on task.

Holding high expectations also builds rapport by motivating students to do more than the minimum requirements. Betty related an experience where her instructor had rejected her proposed theme for a paper, as he felt that she was too familiar with the subject; he wanted her to do more challenging work. He also rejected her second proposal as still too easy. Ultimately, the instructor ended up picking a topic that he felt was adequately challenging. Betty stated that, sometimes, communicating high expectations leads an instructor to treat a student differently from the others. While she initially resented being singled out for more demanding work, she ended up appreciating the instructor’s commitment to her learning, and felt that this strengthened their rapport.

The elements that were specifically mentioned in the interviews as contributing to learning included interactive, time on task, and expectations. These were ranked as sixth, eighth and ninth, respectively, by the entire sample. Time on task was viewed as
the most important element by Betty, and second-most important by Anna. Anna ranked the element interactive as eleventh; Betty ranked it as fifth. The element expectations was tied for next-to-last in importance by both Anna and Betty. Of all of the elements in the study, none of these were ranked highly by the entire sample; time on task appears to be the only one that was highly ranked by the two interviewees.

Rapport-Building Practices that Affected the Online Learning Experience

These practices served to strengthen instructor-student rapport by enhancing the students’ experiences within the technology-based learning environment. Both subjects identified informal, interactive, and contact as practices that enhanced the online learning experience and demonstrated the instructor's commitment to the students’ learning. In the time on task experience detailed above, Betty stated that the instructor's assignment of a more demanding topic increased her time on task as it forced her to acquire a knowledge base about the subject. The challenge not only contributed to her learning and rapport with the instructor, but also made for a more dynamic technology-based learning environment.

As with the theme of contributing to learning, both Anna and Betty viewed the element time on task as having a significant effect on the online environment. However, based upon the responses to the paired comparisons, this element was ranked eighth in importance by the sample as a whole. Interactive fared slightly better with the entire sample, ranking sixth in importance. It also ranked sixth with Betty; but only eleventh with Anna. Informal was ranked twelfth and contact was ranked as thirteenth on the basis of the sample’s responses. While mentioned specifically in the interviews, Anna
ranked informal as thirteenth and Betty ranked it twelfth. Contact placed higher, ranking third with Anna and ninth with Betty. None of these were determined by the entire sample to be among the most-highly ranked elements.

Combinations of Practices that Build Rapport

Instructors’ practices were viewed as more effective when students perceived them as working in conjunction with other practices. The examples offered by the two subjects started with reflections of personal experiences and moved on to include their personal definitions of the traits and practices, and subjective views as to how these combined to build rapport. A stated relationship between honest and dependable centered on how this combination could help a student keep focused. As stated earlier, this fusion of practices was thought to reduce or eliminate uncertainty and unexpected change that could weaken rapport by indicating an instructor’s lack of concern for the online student. In other statements, both Anna and Betty linked time on task to honesty and expectations, stating that these elements helped to create rapport by demonstrating an instructor’s personal interest in the students’ success.

Betty stated that the instructor’s expression of high expectations, what the students needed to learn and to succeed in the course, showed that they were “being honest with the students.” Betty viewed encouraging contact as a demonstration of respecting the diversity of the students’ learning styles, in that it showed the understanding of some students’ need for alternatives to the planned instructional methods. However, Anna viewed this quite differently, stating that informal communication helped rapport but was not critical to her learning.
Of the elements mentioned in the surveys as combining to build rapport, time on task and dependable placed highest in the paired comparison rankings; time on task was ranked second by Anna and first by Betty; dependable tied for fourth- and third-place rankings between the two subjects, respectively. However, only dependable was rated this highly with the entire sample, ranking second; time on task was ranked eighth.

Time on task was also viewed as combining with expectations and being honest to build rapport. The ranking for expectations was tied for fourteenth by both Anna and Betty, and placed ninth with the entire sample. As was the case with dependable, honest tied for fourth- and third-place rankings with the two subjects; however, it was ranked as most important by the entire sample.

The ranking of contact was mixed. While Anna ranked it third, Betty ranked it as ninth, tied with trustworthy. Responses from the entire sample placed it at thirteenth. Informal was ranked as fourteenth and tied for eleventh by Anna and Betty, respectively; it was ranked as twelfth by the entire sample.

The Role of the Student-Instructor Relationship

Based upon the comments of the subjects, the responsibility for a positive and meaningful relationship between instructor and students rested primarily with the instructor. In response to the question “Can you have good rapport without the instructors being a friend?” Betty stated that a sense of togetherness, which she related to social presence of the instructor, made for a better course experience. However, she noted that students were not always open to having a sense of togetherness or community. And that such a sense of togetherness could develop while still maintaining
the teacher-student power relationship. Indeed, Betty rated humor as “5,” as she felt that it represented the removal of power in student-instructor relationships in favor of a “friend relationship.” She went on to state that “Rapport does not equate to a friendship relationship” and felt that “If you’re friends with an instructor, you can manipulate them.” Betty concluded by stating that power relationships should be in place in a learning environment.

Factors Related to Changes in Priorities

Differences in the ways items were ranked in the survey Rapport-building Traits of an Ideal Online Instructor compared to the survey Rapport-building Practices of an Ideal Online Instructor, were also very subjective. Explanations for these changes were made by both subjects. Betty’s concerns that she wasn’t using the rapport-building practices well in her own work was offered as reason for the changes. Anna related the changes to personal interpretations of a trait’s definition. These changes in definition may have also come as a result of the subjects’ more recent observations of the traits in use during the time between the taking of the two surveys.

Factors Related to the Creation of Circular Triads

Circular triads could possibly be caused by the belief that most items were important within the context of specific situations. This is expressed in Anna’s thoughts on the practice of collaboration, which she saw as an acquired skill. While understanding the importance of it, her actual experiences had shown that encouraging
collaboration between students did not always work out. This led her to view this trait as
less critical when paired against other items.

Subjects’ Reflections on the Study

As could be expected, both subjects felt that the second survey was extremely
long. Betty suggested that future iterations of the survey instruments include
demographic questions that would identify international students and ethnicity, as this
would help to explain outliers that were based upon language or cultural influences.
Anna would add “instructor is a good communicator” (or “instructor has good
communication skills”) to the list of traits.

Research Question 4. Is There a Correlation between the Logical Inconsistencies of
Students’ Choices and the Rank Order of the Rapport-Building Elements in Online
Learning Environments?

With a total of 402 circular triads, the results from the survey Rapport-building
Practices of an Ideal Online Instructor showed we cannot automatically assume that a
logical hierarchy of A > B, B > C, and C > A [where > indicates “is chosen over” (Dunn-
Rankin et al., 2004)] will prevail. Betty and Anna both felt that these circular triads could
be caused by the fact that the rapport-building traits’ importance was viewed within the
context of the specific paired comparisons. Comments from the semi-structured
interviews regarding the subjects’ personal practices and their changing interpretations
of the elements’ definitions offer additional possibilities for the creation of circular triads.

Comparison of the number of circular triads (CT) to the ranked position for each
element yielded mixed results (see figure K). The elements receiving the highest
number of circular triads were time on task (CT = 149), active learning (CT = 139), and diversity (CT = 136). RANKO placed their importance as eighth, tenth, and third, respectively. The elements that placed highest in the RANKO analysis had varying numbers of circular triads, as did lower-placing elements.

The review of the circular triads that occurred within each of the three components, shown in Table 5, also yielded inconclusive results. Naturally, the component social presence, comprised of nine elements, accounted for a greater number of circular triads.

Table 5

<table>
<thead>
<tr>
<th>Comparison of the Number of Circular Triads Attributed to Each Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Presence</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Dependable</td>
</tr>
<tr>
<td>Trustworthy</td>
</tr>
<tr>
<td>Honest</td>
</tr>
<tr>
<td>Organized</td>
</tr>
<tr>
<td>Attitude</td>
</tr>
<tr>
<td>Contact</td>
</tr>
<tr>
<td>Active learning</td>
</tr>
<tr>
<td>Interactive</td>
</tr>
<tr>
<td>Diversity</td>
</tr>
</tbody>
</table>

While the components enjoyable interaction and personal connection both held three elements, accounted for almost double the number of circular triads. A possible correlation between the amount of variability accounted for by each component and the number of circular triads was considered. A review showed that there was a mean of 77.33 circular triads per element in the component social presence, 112 circular triads per enjoyable interaction element, and 58 for the elements comprising personal
connection. This inconsistency in the mean number of circular triads per element in the three components halted any further consideration of a possible correlation between circular triads and the variability attributed to each component.

Results from the two surveys indicate a strong preference for instructor-based elements. The 15 elements in the study comprised the three components of social presence, enjoyable interaction, and personal connection. Of the three, social presence was clearly the most heavily loaded; of the nine elements in the component, six related to personality. Of the themes that emerged from the semi-structured interviews, no clear correlation with the element rankings was established. Of the issues that affected the research, the fact that only 12 subjects were common to both surveys appeared to have the most impact.

Issues with the Research

This section discusses the different complications that were encountered during the study. This discussion includes explanations of the possible causes of these situations. It also details how these circumstances impacted the study.

The 12 Common Subjects

Instructions were given to both the recruiting instructors and to the students that only participants in the first survey, Rapport-building Traits of an Ideal Online Instructor, should participate in second survey, Rapport-building Practices of an Ideal Online Instructor. However, of the 32 students who successfully completed the second survey, only 12 had completed the first. While the possibility of this occurring certainly existed, it
was not predicted. One solution would have been to password-protect the second survey. Providing the password only to those who had completed the first survey would’ve limited the opportunities for non-participants in to gain access to the second survey.

The data collected from this subset of judges offered vastly different results compared to the data collected from the entire sample. The responses of all 35 judges’ to the 15 items of the survey Rapport-building Traits of an Ideal Online Instructor produced a robust alpha of .901; the responses of the common 12 judges produced an alpha of .626—short of the minimally-acceptable level of .700. Examination of the item-total statistics (see Appendix J), an indicator of how well the items in a scale are measuring the same construct, showed that three items in the twelve-judge data set had negative correlation values: collaboration (-.173), time on task (-.009), and dependable (-.015). Negative values indicate a possible mis-keying of responses or ambiguous or confusing questions (Pope, 2009; Office of Educational Assessment, 2005). Comparison of the twelve subjects’ responses to the SPSS entries revealed no inaccuracies. This left ambiguity or confusion in the definition of the items as the remaining possibility. A question addressing this issue was added to the script for the semi-structured interviews (see Appendix A.1): “Were any specific questions unclear or hard to understand?” Both Anna and Betty responded in the negative.

In addition, the item expectations held a value of .179. This compares poorly to the results of the larger sample, where item-total correlations ranged from .248 for collaboration to .838 for interactive. Item-total correlation values between 0 and 0.19
may indicate that the question is not discriminating well (Pope, 2008). This called into question the retention of the item expectations for use in this study.

Eliminating any one item did not produce an acceptable alpha; the elimination of all four items, however, raised the value to an acceptable .774. Inter-item correlation also improved, ranging from -.139 for diversity/contact to .841 for diversity/humor; the mean correlation rose from .147 to .325. However, this reduced the number of items for consideration to 11. This further limited the value of studying the responses of the common twelve judges, and of any attempt to draw correlations between their responses to the first and second surveys. For this reason, the decision was made to remove the comparison of the two survey’s results, and the consideration of possible correlations between the two, from this study.

*Changes in Preferences for the Rapport-building Elements*

Differences in the ways Anna and Betty ranked the items in the survey Rapport-building Traits of an Ideal Online Instructor compared to the survey Rapport-building Practices of an Ideal Online Instructor were very subjective. However, there were some similarities in the explanations given by both subjects. And research supports some of their comments.

Changes in preferences were tied to Betty’s concerns over her use of the specific practices in her own work; she feared that she wasn’t using them well during the time between her participation in the two surveys. Changes also related to the individual subjects’ personal interpretations of a trait’s definition. These changes in definition were as a result of how the traits were demonstrated in relation to course material as well as
how instructors expressed them in general. Anna saw the differences in the formats of the two survey instruments as a reason for differences in how the different elements were perceived. Whereas the first survey asked respondents to rate the individual traits independently, the second required respondents to make a deliberate choice of one practice over another. She felt it was easier to rate the importance of items within the context of the pairwise comparison, rather than through the individual Likert scale items. While Betty related the changes in her preferences to her own current teaching, Anna related the changes to past experiences as a student. Collaboration, for example, was viewed as an acquired skill that was gained through experience. Unfortunately, her experiences were not very positive; collaborative projects had not always worked out and she had covered the responsibilities of others in order to complete collaborative activities. So, while she understood the importance of collaboration as a trait, she could not rate it as the more important of two practices in a paired comparison.

Research and contemporary learning theory supports the Subjects’ comments regarding both context and experience. Traditional trait theory viewed traits as static, culturally-bound elements of personality (Jacob, n.d.; Kim, 2011). However, there is both long-standing and more recent opposition to this belief. Mischel (1968) wrote that human behavior was inconsistent and could not accurately be defined solely on the basis of personality traits. “Attribution theory,” advanced in the 1970s, took the position that “behavior depends more on the situation than it does on personality traits and that people who insist on explaining behavior in terms of personality traits are committing the ‘fundamental attribution error.’” And, there is the social constructivist stance that views traits as mental constructions formulated as a result of interactions between individuals,
rather than qualities that reside within a person (Hampson & Coleman, 1995; Jacob, n.d.; Johnson, 2011). Gutierrez and Rogoff (2003, p. 19) addressed the shortcomings of the traditional view:

However, some applications of this approach are based on an assumption that an individual’s style is a trait that is independent of tasks and contexts, and that is constant over time. Such a . . . strategy does not account for change—in the individual, the activity setting, or the community.

These writings indicate that traits are dependent upon the tasks they are involved with, the contexts in which they occur, and the personal interactions through which they are perceived, and that they, and thus their importance, are subject to change. This offers a possible explanation for changes in preferences as expressed by Anna and Betty in the interviews. The Likert items in the survey Rapport-building Traits of an Ideal Online Instructor were context-free. As such, the subjects rated each of these independently. However, the items in the survey Rapport-building Practices of an Ideal Online Instructor appeared in the context of paired comparisons. Rather than assigning the items an independent level of importance, as was done in the first survey, the subjects judged each item in terms of its importance relative to the other item in the pair. Exhausting all possible combinations of items in the survey produced a forced ranking based upon the cumulative choices made. While the Likert items of the first survey detailed the perceived importance of the different rapport-building traits relative only to the seven-point scale, the results stemming from this series of one-to-one comparisons, in all likelihood, represented the most accurate ranking of the rapport-building elements.

Summary

The scope and direction of this research were forcibly changed by the patterns of
subject participation. Planned as a triangulated study of student attitudes towards instructors’ rapport-building traits, their preferences amongst instructors’ rapport-building practices in online learning environments, and the possible correlations that might exist between the students’ preferences for the traits and practices, the research evolved into two distinct studies. Dealing with essentially different samples for the two surveys, and hampered by the limited numbers of subjects, the use of multiple methods still served to triangulate the research findings so that the collected data rendered a more thorough account of the study. This also served to limit inherent weaknesses and biases of any one approach.
CHAPTER 6
SUMMARY AND CONCLUSION

This chapter begins with a summary of the study findings. It continues with an overview of the lessons learned during the course of the dissertation process. These are followed by suggestions for potential future research dealing with rapport building in technology-based learning environments, and related areas of study. The chapter concludes with reflections and final thoughts on the study and the research process as it was undertaken.

Summary of Findings

This section offers a summary of the major findings and the emergent themes of this research. It includes responses to the research questions and sub-questions, a review of the major outcomes from the study, and recommendations for possible applications and future research.

Major Findings

The following is a summary of responses to the research questions. As indicated by the responses to the survey Rapport-building Traits of an Ideal Online Instructor, the subjects that participated in this study viewed all of the elements favorably. The second survey, Rapport-building Practices of an Ideal Online Instructor served to establish a ranking of the 15 items. An examination of logical inconsistencies of the choices made by the subjects in the second survey failed to establish any correlation between the number of circular triads and the rank placement of the items (see Appendix K).
Overall, there was a marked preference for personality elements over pedagogical ones. The elements honest, dependable, trustworthy, and organized were all viewed as being of primary importance, serving as four of the top-five ranked items in the initial survey. Primary component analysis corroborated their importance; their significance was further confirmed through the RANKO analysis of the pair-wise comparisons comprising the second survey. The elements of trustworthy and respectful were also ranked favorably; but not as highly as the four above-mentioned elements; nor were their rankings as consistent across the different forms of analysis. Comments made during the semi-structured interviews reiterated the importance of these elements, showed a connection between many of them, and also added the element organized to the mix.

Principal component analysis also identified elements related to enjoyable interaction and personal connection as components of rapport-building. Social presence arose as the major component of rapport-building in online learning environments. This component also reaffirmed the subjects' preference for personality over pedagogy, with six of the elements being instructor-related: dependable, trustworthy, honest, organized, attitude, and diversity; only three elements, contact, active learning, and interactive, related to pedagogy. Enjoyable interaction consisted of the pedagogical activities of time on task, collaboration, and expectations. and was comprised of the elements informal, humor, and respectful.

*Emergent Themes*

The coding of the comments made during the semi-structured interviews led to
the emergence of specific themes that supported a more thorough understanding of the role of rapport-building elements in online learning environments:

- Rapport-building elements that contributed to learning supported the students’ efforts to personalize the information and to make a connection between course content and real life.
- Rapport-building elements that affected the online learning experience supported more-positive student experiences within the online learning environment by facilitating instructors’ efforts to accommodate a diverse array of student skills, talents, comforts, and learning styles.
- Combinations of practices that build rapport reduced or eliminated uncertainty and demonstrated the instructors’ concern for the online students and their interest in the students’ success.
- The role of the student-instructor relationship was viewed in terms of social presence rather than in the development of a sense of friendship. Indeed, one interviewee placed a lower rating on elements that she felt represented the removal of power in student-instructor relationships.
- Factors relating to preference changes were tied to interviewee concerns with the use of specific elements in their own teaching and to the personal interpretations of an element’s definition. Such changes in definition were reported to come from the subjects’ perceptions of, and reflections on, how the elements were used by their own instructors during the time between the two surveys. Differences in the format of the two survey instruments was also given as a reason for changes to how the different elements were perceived.
Factors relating to the creation of circular triads were anchored to the interviewee’s beliefs that the elements’ importance was judged within the context of the specific paired comparisons.

Lessons Learned

This section serves to review the methodological and operational lessons garnered from the research experience. It is a reflective exercise aimed at providing a more complete appreciation for the elements of the research process. Such review should contribute to my growth as a researcher, allowing me to conduct future research more effectively, and to avoid some of the weaknesses of methodology and difficulties of execution that I experienced in the course of this study.

Lessons in Methodology

The proposal for this research called for the use a mixed methods approach that included the use of Likert-item and pairwise comparison surveys. The Likert items were assessed using the 7-point scale (Figure 4).

![Figure 4. Points along the Likert scale for the survey Rapport-building Traits of an Ideal Online Instructor.](image)

However, the relationships between the points along the scale were never specifically defined. Thus, only ordinal data was collected from the choices made by participants. A carefully-worded explanation that the points above and below the neutral
score of “4” were equidistant, and that successively higher or lower points on the scale represented a doubling or halving in the strength of their belief regarding the importance, or lack thereof, of the trait in question, could have altered the study considerably. By clearly establishing this relationship between the points on the Likert scale, the results gathered could have been treated as interval data. This would have opened up numerous additional opportunities for quantitative analysis and reliability testing.

In analyzing the data from the pairwise comparison survey, the need for more thoughtful planning became evident. Specifically, the answer codes for each response were sequentially unique, e.g. 001 and 002 for the responses to Question 1, 003 and 004 for Question 2, 039 and 040 for Question 20, and so on. This required the reordering of all of the answer codes to 01 for responses indicating the subjects’ preference for the first item of a pair, and to 02 for responses indicating the preference for the second item. This delayed the start of data analysis using RANKO and TRICIR and created numerous opportunities for the introduction of errors into the data.

The proposal identified the use of descriptive data such as Mean and Mode scores for the survey Rapport-building Traits of an Ideal Online Instructor, and the use of RANKO and TRICIR to analyze the pairwise comparisons of the survey Rapport-building Practices of an Ideal Online Instructor. These limited plans for data analysis led to a long period of grappling with the collected data in an attempt to establish a proper direction and routine for meaningful analysis. A more-defined plan for analysis would have shortened the amount of time spent between the collection of the data and the report and discussion on the findings.
Lessons in Logistics

The inability to contact subjects altered participation in the second survey. I did not gain access to the subjects’ emails until I began recruiting for the semi-structured interviews. Requesting their email address in the initial surveys would have allowed me to better access.

A major pitfall in this study was in the recruiting of participants in the surveys. Directions given to the recruiting instructors and placed within both surveys explained that participants in the survey Rapport-building Traits of an Ideal Online Instructor would be asked to participate in a second survey. And that only those who had participated in this first survey should participate in the survey Rapport-building Practices of an Ideal Online Instructor. Non-compliance with these instructions resulted in only 12 subjects successfully completing both surveys. This limited sample produced data that failed to achieve acceptable levels of reliability. My personal appearance to recruit subjects from face-to-face classes may have improved the student’s understanding of the data collection procedure; however, online courses offered no greater opportunity for recruitment beyond the instructors passing along my recruitment notices to their students via emails or discussion forums. The use of a password to allow access to the second survey might have eliminated at least some of the participation in the second survey by those who were not participants in the first. This password could’ve have been given at the end of the first survey; or it could have been emailed to the participants, had email addresses been used as the identifier, as suggested above.

Throughout the study, I went for long periods of time without contacting my major professor. I now realize that ongoing and regular contact would have expedited the data
generation, collection, analysis, and reporting processes. I now understand how strongly I would have benefited from regular contact, including both electronic and face-to-face discussions. While this was my dissertation, it was, like other research writings, a collaborative effort that would have benefitted from ongoing communication and regular interaction.

Suggestions for Future Research

This study made definite contributions to the body of knowledge that relates to online learning environments. Establishing the rank order of instructor practices that built rapport provided insight on how rapport can be created and utilized. The marked preference for instructor-based practices over pedagogical ones indicates one possible direction for further study. And the dominance of the social presence component in rapport building begs for more extensive examination.

Utilizing the lessons learned in this research, a revised study that collected interval data through the Likert-item survey, combined with a modified pairwise comparison survey, and that was administered to a larger sample could continue this study’s original mission. Revision to the instruments could facilitate the discovery of possible correlations between students’ perceptions regarding the importance of instructors’ traits to their preferences for instructors’ practices. A larger sample would allow for more detailed analysis along demographic lines such as age, gender, online course experience, as well as cross-tabulations of these variables. One subject in the semi-structured interviews suggested adding a demographics question that would identify international students. Responses to this question could possibly be used to
explain variations in responses, and the creation of circular triads, while offering further research possibilities regarding the differences between American and foreign students.

In pursuing further research based upon demographic or cultural differences, it might be wise to focus solely on students’ views regarding instructors’ rapport-building practices. This is, in fact, “where the rubber meets the road” regarding the building of rapport in the online learning environment. This would also simplify the data collection effort, reduce the possibility of participation error, and open the door to a wide variety of comparative studies based upon age, gender, graduate/undergraduate standing, academic majors, pre-professional programs, and a host of other independent variables.

Reflections and Final Thoughts

Certainly, this has been a learning experience. I am proud to have made a contribution to the body of knowledge regarding the building of rapport in online learning environments. This process has made me more keenly aware of the thorough planning required in conducting mixed methods research. And, it has driven home the need for me to continue using the statistical tools that I have acquired, and the necessity of acquiring new tools. Maintaining a fresh grasp of statistical concepts and methodologies will make for more thorough research planning and will facilitate my future research efforts. Exploring the vast array of statistical tools and research methods will also make me a more effective research planner, and will give me a more solid foundation upon which to build my future work.
Conclusion

As technology becomes more pervasive, its depersonalizing effects and impact on human interaction become more of a concern (Dickinson, 2010; LeVine, 2010; Nelson, 2008; Nilles, 2012; Richtel, 2010). As we continue to advance instructional technology, we must also strive to maintain and fortify the interpersonal connections that technology-based learning environments can strip away. Research in the building of rapport, the creation of social presence, and other efforts at humanizing technology becomes more critical as the development and utilization of technology becomes more advanced.

If we are to make online instruction more effective, the study of rapport-building practices must be continued and expanded. The diversity of students’ learning styles and instructional needs, the varied instructional approaches and possibly-applicable learning theories, the ongoing development and adoption of new technological innovations, makes it essential that we continue to examine and experiment with the pedagogy and processes that effectively support the building of rapport in online learning environments. This study and others like it are merely steps in the right direction along a trail that extends well beyond the horizon of our knowledge, experience, and expectations.
APPENDIX A

SCRIPT FOR SEMI-STRUCTURED INTERVIEWS
The purpose for this interview is to validate earlier data that was collected by supplying more detailed, in-depth, and reflective information from respondents. This semi-structured interview may also reveal intricate and underlying concerns or correlations that were not discovered through the use of the previously-administered data collection instruments.

This interview will be digitally recorded as an MP3 files for subsequent analysis.

Do you have any questions before we begin?

(Question asked during the semi-structured interviews will stem from the findings of the initial qualitative data collection. Preliminary questions that may possibly be used to guide the interview inquiries are shown below)

In an earlier survey, you indicated a preference for the rapport-building practice(s) of ______________. What do you like about this/these practice(s)? Did the(ir) presence (or absence) contribute to your understanding or mastery of the course content?

In what specific instances did an instructor’s rapport-building practices affect the quality your online course experiences?

In what specific instances did an instructor’s rapport-building practices affect your understanding of the course material?

How did instructors’ rapport-building practices contribute to your learning or mastery of the course material?

Were any rapport-building practices especially helpful to your understanding of the course material?
Are there any other comments or observations that you’d like to make regarding instructors’ use of rapport-building practices in an online learning environment?

Post Survey Questions:

Did you prefer one survey over the other? If so, why?

Were the questions in one survey easier to understand than in the other?

Did you find yourself getting tired of answering Survey 2?

Thank you for your time and for your participation in the study.
APPENDIX B

RAPPORT-BUILDING TRAITS OF AN IDEAL ONLINE INSTRUCTOR
This survey is one element of a study investigating student preferences for online instructors’ rapport-building practices. For this survey, please respond to each statement by indicating how much you agree or disagree with it. Fill in the corresponding number using the following rating scale:

<table>
<thead>
<tr>
<th>Not Very Important</th>
<th>Neutral</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

While you may think of specific instructors with whom you have (had) a good rapport, do not base your responses on the traits possessed by any one current, past, or potential online instructor. Focus, instead on the rapport-building traits that, ideally, every online instructor would have and indicate the importance of each of these traits to you.

- This instructor has a good sense of humor
- This instructor displays a positive attitude
- This instructor encourages contact between students and him/herself
- This instructor encourages active learning
- This instructor encourages collaboration amongst students
- This instructor emphasizes time on task
- This instructor respects students’ diverse talents and ways of learning
- This instructor is dependable
• This instructor encourages informal (non-course related) communication from students
• This instructor is honest
• This instructor is trustworthy
• This instructor is respectful
• This instructor communicates high expectations
• This instructor uses an interactive teaching style
• The instructor is very organized
APPENDIX C

APPROVAL FROM THE INSTITUTIONAL REVIEW BOARD,

UNIVERSITY OF NORTH TEXAS
Greg Jones  
Department of Learning Technologies  
University of North Texas  

Re: Human Subjects Application No. 1026  

Dear Dr. Jones:  

As permitted by federal law and regulations governing the use of human subjects in research projects (45 CFR 46), the UNT Institutional Review Board has reviewed your proposed project titled "Correlations of Critical Design Elements to Learning Outcomes in an Online Learning Environment." The risks inherent in this research are minimal, and the potential benefits to the subject outweigh those risks. The submitted protocol is hereby approved for the use of human subjects in this study. Federal Policy 45 CFR 46.109(e) stipulates that IRB approval is for one year only, April 27, 2010 to April 26, 2011. 

Enclosed is the consent document with stamped IRB approval. Please copy and use this form only for your study subjects. 

It is your responsibility according to U.S. Department of Health and Human Services regulations to submit annual and terminal progress reports to the IRB for this project. The IRB must also review this project prior to any modifications. 

Please contact Sheila Bourns, Research Compliance Administrator, or Boyd Herndon, Director of Research Compliance, at extension 3940, if you wish to make changes or need additional information. 

Sincerely,  

[Signature]  
Patricia L. Kaminski, Ph.D.  
Associate Professor  
Chair, Institutional Review Board  

PKab
APPENDIX D

ROTATED COMPONENT MATRICES OF THE SUBJECT’S RESPONSES TO THE SURVEY RAPPORT-BUILDING TRAITS OF AN IDEAL ONLINE INSTRUCTOR
Table D.1

*Rotated Component Matrix of the Subjects’ Responses to the Survey Rapport-building Traits of an Ideal Online Instructor, with Four Factors*

<table>
<thead>
<tr>
<th></th>
<th>Component 1</th>
<th>Component 2</th>
<th>Component 3</th>
<th>Component 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organized</td>
<td>.861</td>
<td>-.019</td>
<td>.163</td>
<td>-.012</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>.849</td>
<td>.068</td>
<td>.264</td>
<td>.137</td>
</tr>
<tr>
<td>Dependable</td>
<td>.848</td>
<td>.097</td>
<td>-.232</td>
<td>.228</td>
</tr>
<tr>
<td>Honest</td>
<td>.806</td>
<td>.253</td>
<td>.069</td>
<td>.229</td>
</tr>
<tr>
<td>Attitude</td>
<td>.746</td>
<td>.134</td>
<td>.114</td>
<td>.404</td>
</tr>
<tr>
<td>Interactive</td>
<td>.735</td>
<td>.230</td>
<td>.452</td>
<td>.107</td>
</tr>
<tr>
<td>Active Learning</td>
<td>.731</td>
<td>.416</td>
<td>.033</td>
<td>.176</td>
</tr>
<tr>
<td>Contact</td>
<td>.695</td>
<td>.213</td>
<td>.098</td>
<td>.407</td>
</tr>
<tr>
<td>Respectful</td>
<td>.640</td>
<td>-.148</td>
<td>.573</td>
<td>-.198</td>
</tr>
<tr>
<td>Collaborative</td>
<td>-.006</td>
<td>.865</td>
<td>.072</td>
<td>-.103</td>
</tr>
<tr>
<td>Time on Task</td>
<td>.191</td>
<td>.843</td>
<td>.081</td>
<td>.290</td>
</tr>
<tr>
<td>Expectations</td>
<td>.487</td>
<td>.618</td>
<td>.142</td>
<td>.123</td>
</tr>
<tr>
<td>Informal</td>
<td>.072</td>
<td>.326</td>
<td>.831</td>
<td>.056</td>
</tr>
<tr>
<td>Humor</td>
<td>.105</td>
<td>-.076</td>
<td>.681</td>
<td>.613</td>
</tr>
<tr>
<td>Diversity</td>
<td>.330</td>
<td>.152</td>
<td>.032</td>
<td>.822</td>
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</table>
Table D.2

*Rotated Component Matrix of the Subjects’ Responses to the Survey Rapport-building Traits of an Ideal Online Instructor, with Three Forced Components*

<table>
<thead>
<tr>
<th>Trait</th>
<th>Component 1</th>
<th>Component 2</th>
<th>Component 3</th>
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<tbody>
<tr>
<td>Dependable</td>
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<td>0.082</td>
<td>-0.158</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>0.837</td>
<td>0.037</td>
<td>0.315</td>
</tr>
<tr>
<td>Honest</td>
<td>0.835</td>
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<td>0.132</td>
</tr>
<tr>
<td>Organized</td>
<td>0.822</td>
<td>-0.077</td>
<td>0.194</td>
</tr>
<tr>
<td>Attitude</td>
<td>0.809</td>
<td>0.156</td>
<td>0.207</td>
</tr>
<tr>
<td>Contact</td>
<td>0.763</td>
<td>0.238</td>
<td>0.187</td>
</tr>
<tr>
<td>Active Learning</td>
<td>0.756</td>
<td>0.392</td>
<td>0.081</td>
</tr>
<tr>
<td>Interactive</td>
<td>0.709</td>
<td>0.197</td>
<td>0.486</td>
</tr>
<tr>
<td>Diversity</td>
<td>0.502</td>
<td>0.277</td>
<td>0.178</td>
</tr>
<tr>
<td>Time on Task</td>
<td>0.263</td>
<td>0.867</td>
<td>0.114</td>
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<td>Collaboration</td>
<td>-0.013</td>
<td>0.830</td>
<td>0.031</td>
</tr>
<tr>
<td>Expectations</td>
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<tr>
<td>Informal</td>
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<td>0.822</td>
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<td>Humor</td>
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<td>0.779</td>
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<tr>
<td>Respectful</td>
<td>0.532</td>
<td>-0.224</td>
<td>0.561</td>
</tr>
</tbody>
</table>
APPENDIX E

SUBJECTS’ RESPONSES TO THE SURVEY RAPPORT-BUILDING PRACTICES

OF AN IDEAL ONLINE INSTRUCTOR
Table E.1

Rank Values of the Subjects’ Responses to the Survey Rapport-building Practices of an Ideal Online Instructor

<table>
<thead>
<tr>
<th>Subject</th>
<th>Rank Values</th>
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<tr>
<td>1</td>
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<td>4</td>
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<td>6</td>
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<tr>
<td>7</td>
<td>8 8 6 3 2 7 11 12 2 13 12 7 9 5 11</td>
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<tr>
<td>8</td>
<td>2 1 3 4 7 5 14 11 8 12 6 12 10 11 9</td>
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<td>29</td>
<td>1 3 11 11 6 5 11 10 14 14 18 8 2 5 6</td>
</tr>
<tr>
<td>30</td>
<td>1 2 3 4 5 6 7 10 11 12 13 12 12</td>
</tr>
<tr>
<td>31</td>
<td>2 8 4 13 7 2 14 5 7 9 4 11 7 10 12</td>
</tr>
<tr>
<td>32</td>
<td>6 5 4 4 6 8 6 8 12 10 12 10 9 6 9</td>
</tr>
</tbody>
</table>

Note. This table details the differences in item preferences that were established by the subjects’ choices. Identical values for a subject indicate the presence of circular triads. In such cases, the mean of the three rank values is assigned to each of the three items involved (Dunn-Rankin et al., 2004).
Table E.2

*Rank Sum Totals and Scale Scores for Subjects’ Responses to the Survey Rapport-building Practices of an Ideal Online Instructor*

<table>
<thead>
<tr>
<th>Item</th>
<th>Rank Total</th>
<th>Scale Score</th>
</tr>
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<tbody>
<tr>
<td>Minimum</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Humor</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Attitude</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>Contact</td>
<td>3</td>
<td>33</td>
</tr>
<tr>
<td>Active Learning</td>
<td>4</td>
<td>42</td>
</tr>
<tr>
<td>Collaboration</td>
<td>5</td>
<td>39</td>
</tr>
<tr>
<td>Time on Task</td>
<td>6</td>
<td>48</td>
</tr>
<tr>
<td>Diversity</td>
<td>7</td>
<td>63</td>
</tr>
<tr>
<td>Dependable</td>
<td>8</td>
<td>66</td>
</tr>
<tr>
<td>Informal</td>
<td>9</td>
<td>38</td>
</tr>
<tr>
<td>Honest</td>
<td>10</td>
<td>74</td>
</tr>
<tr>
<td>Organized</td>
<td>11</td>
<td>61</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>12</td>
<td>53</td>
</tr>
<tr>
<td>Respectful</td>
<td>13</td>
<td>61</td>
</tr>
<tr>
<td>Expectations</td>
<td>14</td>
<td>45</td>
</tr>
<tr>
<td>Interactive</td>
<td>15</td>
<td>55</td>
</tr>
<tr>
<td>Maximum</td>
<td>480</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note.* Rank totals are the aggregate of all of the subjects’ rank values for each practice. Scale scores facilitate analysis and interpretation by presenting ranking information in a more readily understandable 0 – 100 scale; they are directly proportional to rank totals (Dunn-Rankin et al., 2004).
APPENDIX F

SUBJECT CONSISTENCY
Kendall's Coefficient of Concordance (W) for Subjects' Votes
W = .3078

<table>
<thead>
<tr>
<th>Subject</th>
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<th>Consis</th>
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<td>0.8857</td>
</tr>
<tr>
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<tr>
<td>4</td>
<td>22</td>
<td>0.8429</td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td>0.8929</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>0.9500</td>
</tr>
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<td>0.8786</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>1.0000</td>
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<td>0.6929</td>
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<td>11</td>
<td>4</td>
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<td>0.9929</td>
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<tr>
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<tr>
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<td>0</td>
<td>1.0000</td>
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<td>0.9714</td>
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<td>18</td>
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<tr>
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<tr>
<td>22</td>
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<td>1.0000</td>
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<td>0.9500</td>
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<tr>
<td>32</td>
<td>38</td>
<td>0.7286</td>
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</table>
APPENDIX G

PAIRED COMPARISON ANALYSIS SUMMARY OF THE SURVEY RAPPORT-BUILDING PRACTICES OF AN IDEAL ONLINE INSTRUCTOR
<table>
<thead>
<tr>
<th>Item</th>
<th># CT's In</th>
<th># Votes</th>
<th>Scaled</th>
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</thead>
<tbody>
<tr>
<td>Humor</td>
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<td>88</td>
<td>52</td>
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<tr>
<td>Attitude</td>
<td>2</td>
<td>118</td>
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<tr>
<td>Contact</td>
<td>3</td>
<td>127</td>
<td>149</td>
</tr>
<tr>
<td>Active Learning</td>
<td>4</td>
<td>139</td>
<td>189</td>
</tr>
<tr>
<td>Collaboration</td>
<td>5</td>
<td>130</td>
<td>173</td>
</tr>
<tr>
<td>Time on Task</td>
<td>6</td>
<td>149</td>
<td>216</td>
</tr>
<tr>
<td>Diversity</td>
<td>7</td>
<td>136</td>
<td>280</td>
</tr>
<tr>
<td>Dependable</td>
<td>8</td>
<td>33</td>
<td>188</td>
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<tr>
<td>Informal Communication</td>
<td>9</td>
<td>56</td>
<td>112</td>
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<tr>
<td>Honest</td>
<td>10</td>
<td>25</td>
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<tr>
<td>Organized</td>
<td>11</td>
<td>38</td>
<td>164</td>
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<td>Trustworthy</td>
<td>12</td>
<td>43</td>
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<tr>
<td>Respectful</td>
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<td>182</td>
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<tr>
<td>High Expectations</td>
<td>14</td>
<td>57</td>
<td>36</td>
</tr>
<tr>
<td>Interactive Style</td>
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<td>37</td>
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Kendall's Coefficient of Concordance ($w$) for Subjects' Votes

$w = .3078$
APPENDIX H

COMPARISON OF INTERVIEW SUBJECTS’ RANKINGS IN THE TWO SURVEYS
<table>
<thead>
<tr>
<th>Anna</th>
<th>Rapport-building Traits</th>
<th>Rapport-building Practices</th>
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<td>Diversity</td>
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</tr>
<tr>
<td></td>
<td>Contact</td>
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<td></td>
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<td>Dependable</td>
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<tr>
<td></td>
<td>Honest</td>
<td>Honest</td>
</tr>
<tr>
<td></td>
<td>Interactive</td>
<td>Organized</td>
</tr>
<tr>
<td></td>
<td>Organized</td>
<td>Respectful</td>
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<tr>
<td></td>
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<td>Diversity</td>
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<td></td>
<td>High Expectations</td>
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<td>Contact</td>
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<td>Time on Task</td>
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<td></td>
<td>Collaboration</td>
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<td></td>
<td>Humor</td>
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<td></td>
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<td>Active Learning</td>
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<td></td>
<td>Informal Expectations</td>
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<table>
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<th>Rapport-building Practices</th>
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<tr>
<td></td>
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<tr>
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<td>Time on Task</td>
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<td>Contact</td>
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<tr>
<td></td>
<td>Collaboration</td>
<td>Humor</td>
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<tr>
<td></td>
<td>Informal</td>
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APPENDIX I

RAPPORT-BUILDING COMPONENTS AND THEIR PRACTICES
<table>
<thead>
<tr>
<th>Social Presence</th>
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<th>Personal Connection</th>
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<td>Informal</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>Collaboration</td>
<td>Humor</td>
</tr>
<tr>
<td>Honest</td>
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<td>Contact</td>
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</tr>
<tr>
<td>Active Learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interactive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diversity</td>
<td></td>
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APPENDIX J

ITEM-TOTAL STATISTICS FOR THE 12 COMMON SUBJECTS
<table>
<thead>
<tr>
<th>Item</th>
<th>Corrected Item-Total Correlation</th>
<th>Cronbach's Alpha if Item Deleted</th>
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</thead>
<tbody>
<tr>
<td>Humor</td>
<td>0.354</td>
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<tr>
<td>Attitude</td>
<td>0.361</td>
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<tr>
<td>Contact</td>
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<td>Collaboration</td>
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<td>0.696</td>
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<tr>
<td>Time on Task</td>
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<tr>
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<td>0.638</td>
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<td>Informal</td>
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<tr>
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<td>0.614</td>
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APPENDIX K

COMPARISON OF RANK PLACEMENTS TO THE NUMBER OF CIRCULAR TRIADS
REFERENCES


