ABSTRACT

Title of dissertation:	THE RELATIONSHIP BETWEEN BEST ONLINE INSTRUCTIONAL PRACTICES AND UNDERGRADUATE STUDENT PERCEPTIONS OF INSTRUCTOR CREDIBILITY AT A LARGE, FOUR-YEAR, PUBLIC, OPEN UNIVERSITY
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Numerous scholars have pointed to positive associations between student perceptions of instructor credibility and student outcomes (i.e., cognitive learning, higher motivation, and increased willingness to participate in and out of class); however, their work has primarily considered traditional-aged students in the traditional classroom setting. Given the significant growth in distance education enrollments at post-secondary institutions across the United States (U.S.), the lens through which instructor credibility has traditionally been examined is broadened by this study.

Drawing upon the work of McCroskey and Teven (1999), this mixed-methods research study explored the relationship between best online instructional practices and undergraduate student perceptions of instructor credibility as defined on three dimensions: competence, caring, and trustworthiness. Emphasis was placed on the six best online instructional practices that McCollum & Abdul-Hamid (2011) determined to be associated with student success (higher pass rates and lower withdrawal rates).

Based on data obtained from an online survey instrument in which 67 responses were collected from undergraduate students (82 percent adults, 47 percent minorities, and 70 percent female) enrolled in multiple sections of a fully online upper-level course from within the communication field of study along with data from 16 synchronous online interviews, it was concluded that there is a significant and positive relationship between four of the six best online instructional practices (*continuous involvement and feedback from faculty (immediacy/presence), incorporate learning modules (targeted and logically placed), draw from experiences and introduce students to cultures and subcultures to add relevance, and provide opportunities for collaborative learning)* and student perceptions of instructor credibility on at least one of three dimensions of credibility. The best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence),* however, proved to be most meaningful with respect to student perceptions of instructor credibility, as the relationship between the two were consistently strongest across all three dimensions (competence, caring, and trustworthiness).

THE RELATIONSHIP BETWEEN BEST ONLINE INSTRUCTIONAL PRACTICES AND UNDERGRADUATE STUDENT PERCEPTIONS OF INSTRUCTOR CREDIBILITY AT A LARGE, FOUR-YEAR, PUBLIC, OPEN UNIVERSITY

by

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Dissertation submitted to the Faculty of the Graduate School of the
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DEDICATION

To my beautiful children, Gracie, Riley, and Mason, as they are the very reason that I never gave up and that this dissertation is now complete. With this achievement, I hope to be an example for them, to show that anything is possible. I can't wait to see them grow and to cheer for their individual aspirations, whatever they may be. I will be right beside them on their every journey in life as they have been beside me, with enduring love.

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CHAPTER ONE: INTRODUCTION

The National Center for Education Statistics (NCES) (2012c) of the United States Department of Education (DoE) reports that enrollment in degree-granting institutions[1] in the United States (U.S.) totaled just over 21 million post-secondary students in 2010, an increase of 37 percent from 2000, when there were 15.3 million students. NCES projections indicate that enrollments will continue to rise by 15 percent, with more than 24 million students enrolled in degree-granting post-secondary institutions by 2020. It is significant that the five degree-granting institutions with the highest enrollments in 2010 included the University of Phoenix - Online Campus, Kaplan University - Davenport Campus, Arizona State University, Ashford University, and Miami-Dade College (U.S. DoE, 2011b), which are all recognized for providing programs that are offered via "distance education"[2] courses. This is a revealing fact, given that the number of students taking at least one online course increased from 1.6 million students in fall 2002 to 6.7 million in fall 2011, a compound annual growth rate of 17.3 percent (Allen & Seaman, 2013). This is a striking increase when compared to post-secondary enrollments overall, which Allen and Seaman (2013) note only experienced a 2.6 percent annual growth rate over the same period of time.

While there are many possible explanations for the upsurge in distance education enrollments, this discussion will center primarily on factors relating to three post-secondary student populations: all male and female adults, all male and female

[1] "Degree-granting institutions include almost all 2- and 4-year colleges and universities; they exclude institutions offering only career and technical programs of less than 2 years' duration and continuing education programs" (U.S. Department of Education, 2011b).
[2] "[D]istance education courses include live, interactive audio- or videoconferencing; prerecorded instructional videos; webcasts; CD-ROMs or DVDs; or computer-based systems accessed over the Internet" (U.S. Department of Education, 2011a, p. 120).

minorities, and all females. These particular student populations were chosen for this study because projections indicate that students from all three groups will represent a significant proportion of all post-secondary enrollments by 2020 (U.S. DoE, 2012c, 2013). As such, it will be useful to examine the confluence between the rise in distance education enrollments and the expected increases in adult, minority, and female students.

One of the most significant demographic factors influencing the growth of online education is the aging of the American higher education population. According to the NCES (2012c), adult students aged 25 years or older will represent 44 percent of all post-secondary enrollments in degree-granting institutions by 2020. Of the 10.7 million adult students expected, 63 percent will be female. This is important to note, considering that adult students, commonly referred to as "non-traditional"[3] students, often find themselves faced with time constraints and accessibility issues, given their unique challenges. For example, adult students often have rigid work schedules and simply cannot attend traditional brick-and-mortar campuses, where classes tend to occur during the day. Similarly, responsibilities at home, such as the care of children or elderly parents, may make it difficult for adult students to attend classes at a fixed time. Often, personal responsibilities like these require adult students to make difficult choices between family duties and educational pursuits.

Given the mounting demands faced by the adult student population, distance education is a useful instructional mode because it offers the freedom to take courses from virtually any location at any given time of the day, despite various restrictions. For

[3] Non-traditional students are those "who attend college to address career advancement issues or other life transitions and are associated with living away from campus; having social groups that are not associated with the college; having spouses, children, or both; not being involved in campus organizations; and attending part-time" (Bradley & Graham, 2000, p. 489).

instance, distance education can provide active-duty service members and Department of Defense personnel with a portable classroom option, even in war zones, such that coursework can be accessed via hand-held devices, laptops, and e-readers, minimizing the need to pack heavy textbooks or to be accessible at known points in time (GetEducated Consumer Reporting Team, 2010). Distance education also makes it possible for adults in rural areas or who may live a considerable distance from established educational institutions to participate in programs that they may not otherwise be able to access.

In addition, as a growing number of adult students join an already increasing number of students of all ages, higher education institutions may become capacity-challenged. Distance education provides a way to accommodate surging enrollments that may be impossible to address through fixed physical facilities.

A second demographic trend that has positively impacted distance education enrollments is the increase in minority populations within the U.S. According to 2008 U.S. Census Bureau data, it was predicted that by the year 2050, 54 percent of the population will consist of minorities, defined as "everyone except for non-Hispanic, single-race whites." From a higher education standpoint, post-secondary enrollments at degree-granting institutions will continue to be markedly affected, as has been seen over the last decade. Looking ahead to 2020, it is anticipated that minorities will account for 44 percent of the total post-secondary enrollments, an increase from 39 percent in 2010 (U.S. DoE, 2013). Furthermore, of all bachelor's degrees awarded to post-secondary students between 1999/2000 and 2009/2010, the percentage change for minority students remained constant or increased (Blacks, from 9 to 10 percent; Hispanics, 6 to 9 percent;

Asian/Pacific Islanders, 6 to 7 percent; and American Indian/Alaska Native, 1 percent in both years examined), while that of White students decreased (75 to 71 percent).

Not only are more minority students pursuing and completing post-secondary education at higher rates than in the past, enrollment patterns show that they are participating in distance education courses in growing numbers (Sikora & Carroll, 2002). While there may be many explanations for this trend, this review will focus on three influential factors: flexibility in course offerings, in payment options, and in admission policies.

As described earlier in the discussion of adult students, one of the primary advantages of distance education is that it offers students the freedom to take courses from virtually any location, at any given time of the day, irrespective of other conflicts. Another advantage is that many distance education models offer shorter term lengths, multiple semester start dates, and, in some cases, overlapping terms. These features make it more practical for adults and minorities to not only pursue a post-secondary degree but to craft an academic program that can be paced at their own choosing. For instance, some students may need to complete a degree in a relatively short period of time, while others may prefer to stretch the program over a longer duration, allowing for multiple start and stop dates. Having the flexibility to customize an academic program in which life responsibilities can be balanced with educational pursuits is an appealing option, influencing the overall growth in distance education enrollments (Brain Track, 2013).

For many distance education students, an additional attraction is the financial flexibility that can be achieved. Many institutions primarily focused on distance

education offer a variety of payment options. Take, for instance, the University of Phoenix – Online Campus, which attracted 308,000 students in 2010 (U.S. DoE, 2011b). When it comes to financing education, University of Phoenix students can choose from options ranging from cash plans (paying for one class at a time) to tuition deferral plans (providing a 60-day grace period) to third-party billing plans (tuition charges sent directly to a student's employer) (University of Phoenix, 2013). Other options may include interest-free payment plans, by which students can spread their tuition payments out over a longer period of time versus paying large, upfront charges.

According to the College Board (2013), undergraduate students funded their education for 2011-2012 in the form of grants (51 percent), loans (40 percent), and a combination of tax credits and work-study options (9 percent). For minority students, Blacks and Hispanics in particular, the loan option may not be a feasible choice, as many of these students are from households where the income is lower than the overall median ($49,777) (U.S. Department of Commerce, 2012).

Research indicates that minority students are generally less likely than white students and those from higher-income families to accept college funding offered through financial aid programs, especially if the funding is in the form of a loan (Swail, Redd, & Perna, 2003). In particular, prior research from the National Postsecondary Student Aid Survey (NPSAS, as cited in McDonough & Calderone, 2009) indicates that Latino/as and African American students were the least likely to accept loans in any form (26.7 percent and 27.8 percent, respectively). According to McDonough & Calderone (2009), this resistance to take on loan debt for the purpose of college financing has been termed in the literature as "loan aversion" (p. 1). In light of this factor, distance education offers a

distinct benefit in which payment options can be tailored to fit individual needs, removing the burden of loan reliance.

For some post-secondary students, especially minority students, the trials and tribulations of getting admitted to a traditional college or university are exacerbated by college readiness factors. While some prospective distance education students are highly qualified, some are not and would have difficulty getting admitted to a regular four-year college program that typically relies on college entrance exam scores, like the ACT and SAT, for admission consideration. According to the NCES (2012a), males outperformed females (28 percent to 22 percent) across all four college readiness benchmark scores (English, mathematics, reading, and science), and across all racial and ethnic groups. However, it should be noted that the percentage achievement for both male and female students overall is lowest for minority students: White (35 percent to 28 percent); Asian (44 percent to 37 percent); Native Hawaiian/Pacific Islander (18 percent to 12 percent); American Indian/Alaska Native females (14 percent to 10 percent); Hispanic (14 percent to 9 percent); and Black (5 percent to 4 percent).

There may be adverse effects on minority students when they are faced with traditional admission policies that are selective and competitive in nature (Swail et al., 2003). Distance education helps to counter the adverse effect of highly stringent admission policies found at traditional colleges. Admission polices tend to be more lax at institutions that focus primarily on distance education. For instance, some distance education providers have "open admission" policies that are not based on competitive or selective practices. In this light, distance education has enhanced access for all students,

including those from minority populations, to pursue a college education that otherwise may have been impossible.

The confluence of the three factors just described—flexibility in course offerings, in payment options, and in admission policies—speaks to the growth in distance education enrollments for minority students and in many ways for the non-traditional student population overall. This is also particularly true for females, especially those who fall within the non-traditional category.

The overall increase in post-secondary enrollments of female students is yet another factor impacting the growth in distance education. Nationally, it is projected that females will make up about 59 percent of all post-secondary enrollments by 2020, which is a 2 percent increase from 2010 (U.S. DoE, 2012c). While the percentage change of females in post-secondary degree-granting institutions was small over the 10-year period,[4] the percentage of females turning to distance education at points in time over this same 10-year period is significant. In 2007/2008 for instance, data indicate that more than 5 million (about 28 percent) of all post-secondary students opted to take at least one of their courses via a distance education format. Of this, 61 percent of the students were female (U.S. DoE, 2011a). The percentage difference between female and male was even greater (63 percent female and 37 percent male) when looking at the proportion of students who opted to take their entire program through distance education.

[4] The tipping point of women outnumbering men in post-secondary education has varied depending on the degree conferred. With respect to Associate's degrees, the tipping point was between 1977/1978, when women earned 50.3 percent of degrees awarded; for Bachelor's degrees, the year was 1981/1982, at 50.3 percent; for Master's degrees, the year was 1986/1987, at 50.4 percent; and for Doctor's degrees, the year was 2005/2006, at 50.1 percent (U.S. DoE, 2012b).

Research indicates that learning styles for male and female students are different, particularly in the online classroom (Prümmer, 2000). In a comparison of various studies including that of Gilligan (1982), J. Thompson (1983), Belenky, Clinchy, Goldberger and Tarule (1986), and Kirkup (1995), as cited in Prümmer (2000), the parallels between the learning styles of female students against those of male students were consistently similar. For male students, the preferred learning style was generally one that included an autonomous approach in which learning was best achieved on an individual basis. Male students tended to be more comfortable working and studying alone to accomplish course requirements. Whereas, for female students, the preferred learning style tended to be more collaborative in which they "preferred to do their studying in a connected and social context" (Prümmer, 2000, p. 82).

The difference in learning styles between female and male students may pose a challenge for distance education providers, especially if the gender proportions continue to shift more positively towards females. Considering that the essence of distance education rests on a distributed learning format in which there is little or no physical presence between the instructor and students, females may find it more difficult to adapt, thus impacting their success rates. As such, future research will need to take into consideration important factors like learning styles to account for the needs of female students. Similarly, best online instructional practices, a key concept in this study, should be examined as a possible way to level the playing field with respect to divergent learning styles.

Despite the conflict between the learning style preferences of females and the online educational format, females—especially adult females and those with a dependent

or spouse, or those who are employed full time—are increasingly turning to distance education (U.S. DoE, 2012b). Given that the everyday lives of females can be chaotic and may include domestic roles, distance education is a likely choice even if the online format does not match their learning styles. For non-traditional students, the majority of whom are adult, minority, and/or female, distance education provides the flexibility that is necessary to juggle a variety of life demands while balancing an education that might not otherwise be possible.

Statement of the Problem

Online enrollment trends suggest that distance education will continue to expand, especially in light of the flexibility that it offers to adult students, minorities, and females. Given the growth potential and possible benefit for millions of students, it is not surprising that distance education is gaining rapid attention within the higher education community. There is, for instance, a robust body of work emerging in various specialty areas of distance education, including online classroom design, faculty training, learning management systems (LMS), and student assessment. Despite the rapid growth and scholarly attention, there still remain areas within distance education that have only been touched on the surface and that require in-depth consideration.

One of the contentions of this study is that the area of teaching, "those activities that experience has shown to be effective in getting students to learn" (Smith, as cited in "Definitions of teaching," n.d., slide 8), is one that necessitates additional understanding, especially within the realm of distance education. While there is a long history of research that focuses on instructional practices within the traditional context of higher education, research within the online classroom context is more restricted. Further, much

of what is known about online instructional practices stems from findings rooted in the body of literature relating to "traditional" classroom instruction. For instance, the work of Chickering and Gamson (1987), in which *Seven Principles of Good Practice in Undergraduate Education* are offered, has become of one of the most widely accepted resources from the standpoint of best instructional practices within U.S. higher education.

In 1987, a task force led by Chickering and Gamson was established to assess 50 years of published research with the goal of summarizing the best practices in undergraduate research. The efforts of this task force, which included researchers, instructors, administrators, and students ultimately led to the framework upon which their popular work is based. As one of the most widely used resources, the following best practices have been applied to university classrooms since being published:

Seven Principles for Good Practice in Undergraduate Education (Chickering and Gamson, 1987)
Encourages contacts between students and faculty
Develops reciprocity and cooperation among students
Uses active learning techniques
Gives prompt feedback
Emphasizes time on task
Communicates high expectations
Respects diverse talents and ways of learning

While Chickering and Gamson's seven principles offer a broad and well-respected understanding of good instructional practices, students' perceptions of these

practices may not be mutually transferable across all educational contexts. Although, many constructs from traditional classroom research may be useful in understanding online classrooms, it cannot be assumed that the very same practices that are successful in one classroom format will constitute quality instruction in another format for all students.

A second contention of this study is that an in-depth examination of instructor credibility is needed if we are to fully understand the implications for student success. In particular, one of the gaps in the existing literature with respect to best online instructional practices concerns the exploration of student perceptions through the lens of the instructor credibility concept, a central element to student success.

Among educational researchers, "instructor credibility" is generally defined as the degree to which students perceive the instructor to be believable (McCroskey, 1998). As such, instructor credibility is important to examine, and it will serve as the fundamental concept in this study, on the basis that educational researchers consider it to be one of the most influential factors impacting learning and outcomes (Finn et al., 2009; Russ, Simonds, & Hunt, 2002; Thweatt & McCroskey, 1998).

Theorists also agree that "credibility" as a broader construct has three dimensions: c*ompetence*, the degree to which an instructor is perceived to be qualified, authoritative, intelligent, and an expert in a given subject area; *trustworthiness*, the degree to which an instructor is perceived to be honest and of good character; and *caring*, the degree to which an instructor is perceived as understanding, empathetic, and responsive (McCroskey & Teven, 1999). While student perception ratings may vary from one dimension to the next (competence, trustworthiness, caring), studies situated in the

traditional classroom setting show that instructors who are deemed most credible by students are those who score high across all three dimensions (McCroskey, 1998).

Most notable with respect to credibility, is that students cognitive learning has been linked to student perceptions of instructor credibility. According to a (1998) study by Thweatt & McCroskey which involved 197 undergraduate students enrolled in various levels of communication courses at a large Eastern University, "the higher the credibility, the higher the learning" (p. 349).

Frymier and Thompson (1992) suggest that students make decisions about instructor credibility based on the process of communication, referred to as pedagogical communication, by which the instructor conveys the course subject material. Since instructors convey subject matter in varying ways, student perceptions of instructor credibility can be positively or negatively influenced by any number of communicative behaviors (Brann, Edwards, & Myers, 2005).

In the traditional classroom, instructors can rely on the pedagogical communication process to establish credibility and advance educational subject matter (Haskins, 2000). For instance, in the face-to-face classroom, instructors can adjust behaviors such as "vocal variation (changes in rate, inflection, volume, movement)" or "visual variation (change in facial expressions, eye contact, gestures)" as a means to influence credibility (p. 2). Other studies have indicated that even non-communicative variables such as the instructor's attire (Morris, Gorham, Cohen, & Huffman, 1996), gender (Clune, 2009; Schrodt & Turman, 2005), race (Hendrix, 1998) and sexual orientation (Russ et al., 2002) can have a substantial influence on credibility perceptions.

In contrast to the traditional classroom, instructors teaching in the distance education realm are typically void of face-to-face interaction with students and therefore cannot rely upon the same communicative and non-communicative cues as their traditional counterparts. The question then becomes, "How do online instructors influence student perceptions of credibility by means of instructional practices?" as it pertains to student success. This is the problem on which this study will focus.

Purpose of the Study

The purpose of this study was to explore the relationship between best online instructional practices and undergraduate student perceptions of instructor credibility as defined on three dimensions: competence, trustworthiness, and caring. Emphasis is placed on those best online instructional practices that are associated with student success (higher pass rates and lower withdrawal rates).

Research Questions

This study addresses two primary research questions:

RQ1. Which best online instructional practices do students identify as influencing their perception of instructor credibility as defined on three dimensions: competence, trustworthiness, and caring?

RQ2. How do students describe the teaching practices of a credible online instructor?

Significance of the Study

The potential value of this study is two-fold. First, this study seeks to fill a significant gap in the existing literature. Past research on instructor credibility has predominantly been situated in the traditional classroom setting. In a meta-analysis review conducted by Finn et al. (2009) that synthesized over 30 years of research focused on credibility, not even one distance education classroom was examined. Given that perceptions of instructor credibility have been positively associated with student learning and yet have never been explored within the online classroom context, this study will fill an important gap. Specifically, this study is situated within the online classroom, in which the perspectives of non-traditional students at a public, open university[5] will be the central focus, bringing attention to a data set not yet explored in the existing literature but growing in importance. It should also be noted that the distance education provider in this study is categorized as a not-for-profit institution.[6]

Second, the results of this study have practical implications for policy makers, administrators, and educators, whose work involves the design and implementation of instructional practices for use in the online classroom. The findings will help in developing a better understanding of the variables that not only influence student perceptions of instructor credibility but that also enhance student success. College officials may find validation for the importance of strengthening student perceptions of instructor credibility. It is also my hope that through critical evaluation and questioning,

[5] An open university is one that "admits all students on a first come, first served basis with minimal or no entry requirements" (Collins & O'Brien, 2003, p. 250).
[6] This is an important differentiation in that for-profit institutions have been scrutinized for their profit-seeking cultures (Carey, 2010).

an emerging credibility theory, one specific to distance education, will develop, and that this theory can be shared and enhanced through future research.

Organization of the Dissertation

Chapter Two: Literature Review

Chapter Two is composed of a review of the existing literature relevant to this study. Specifically, the review is framed by three domains of literature: credibility, distance education, and best online instructional practices.

Chapter Three: Methodology

Chapter Three includes a detailed description of the mixed-methods, non-experimental research design that was used in this study. The subsections of this chapter focus primarily on the development of a survey instrument and on data collection procedures that were employed to analyze the quantitative and qualitative results.

Chapter Four: Results of the Survey

Chapter Four describes the results of a multiple-part online survey, including data analysis procedures. To provide the reader with a detailed understanding of the survey results, information regarding the recruitment methods, response rates, and participant profile are included.

Chapter Five: Results of the Interviews

In Chapter Five, an overview of the qualitative data analysis procedures is provided, followed by the results of 16 student interviews. Details regarding the interview recruitment process, response rate, and participant profile are included to paint a clear picture of factors that may have influenced the results.

Chapter Six: Conclusion

In the concluding chapter, a recap of the study is provided prior to a summary of key findings from both the survey and the interview. In this chapter, stock is taken to determine if the research questions, central to this study, were adequately addressed. The final discussion includes theoretical and practical implications, limitations of the study, and future research directions.

CHAPTER TWO: LITERATURE REVIEW

The context of this study is framed by three domains of literature: credibility, distance education, and best online instructional practices. In the sections to follow, an analysis of each of these domains will be presented.

The primary sources of information used in the analysis to follow include articles, research papers, books, dissertations, meta-analysis reviews, and conference proceedings. Each of these sources not only offered insight into the three literature domains but also helped to shape the design of this study to address the two primary research questions mentioned earlier:

RQ1. Which best online instructional practices do students identify as influencing their perception of instructor credibility as defined on three dimensions: competence, trustworthiness, and caring?

RQ2. How do students describe the teaching practices of a credible online instructor?

Credibility as a Construct – The Historical Underpinnings

In Cooper's 1932 translation of Aristotle's *Rhetoric*, Aristotle refers to credibility as the most influential source of persuasion. Given this classical assertion, credibility has gained significant scholarly attention over the years. As cited in McCroskey and Young (1981), some of the earliest researchers to examine credibility with measurement in mind included Franklyn Haiman (1948); Charles Osgood, George Suci, and Percy Tannenbaum (1957); and Kenneth Anderson (1961). While the measure of credibility was operationalized in varying ways by each scholar, it was the work of James McCroskey and associates between 1966 and 1999 that ultimately built the consensus upon which

most of the contemporary literature is based. To illustrate over three decades of scholarly work, each generation of the credibility construct is described next.

For nearly 10 years, beginning in 1966, McCroskey and his colleagues conducted a series of assessments in which previous factor analytic studies, such as those offered by earlier scholars, were examined across a variety of source types and receivers. As a result, McCroskey, Holdridge, and Toomb (1974) concluded that the construct of credibility was a factor with five dimensions: competence, character, sociability, composure, and extroversion. Given this theoretical contribution, an advanced measure of credibility was operationalized by a 14-item instrument as a means to assess the ways in which students made judgments about their instructors' perceived credibility (Finn et al., 2009). The findings of this initial measurement, which reported positive associations between instructor credibility and student outcomes, were compelling enough that a series of in-depth follow-up studies were conducted by other communication scholars over the next decade. Some of these studies will be referenced throughout this chapter.

In 1981, McCroskey and Young challenged the earlier credibility measurement offered by McCroskey et al. in 1974; they asserted that future research should limit the dimensions of credibility to include only competence and character. The rationale for this shift was that the dimensions of sociability, composure, and extroversion more accurately reflected a person's perception of credibility versus the theoretical construct of credibility itself. Given this notion, McCroskey and Young (1981) narrowed the credibility measure to only two dimensions, competence and character, indicating that scholars who were interested in sociability, composure, or extroversion would need to

develop specific measures and to consult the body of literature available in those particular areas.

With reliability coefficients recorded as .80, the two-dimensional Teacher Credibility Scale offered by McCroskey and Young (1981) continued to serve as the primary credibility measure for the next 10 years. Then in 1992, McCroskey offered another theoretical contribution that would once again change the face of the credibility construct. McCroskey asserted that a third dimension, *goodwill/caring* should be added, making the construct of credibility one that is three-dimensional. Tapping into the theoretical underpinnings of credibility offered by Aristotle, who included character [phronēsis], virtue [aretē], and goodwill [eunoia], McCroskey asserted that "goodwill," or "intent toward receiver," had been lost in the earlier translation. McCroskey's rationale for this shift was not to argue against the existing measures of competence and character but to develop a measure that was inclusive of the goodwill/caring measure originally advanced by Aristotle.

In 1997, Teven and McCroskey operationalized the three-dimensional construct asserted earlier by McCroskey (1992) by using a 10-item bipolar scale that included a stand-alone perceived caring dimension (Figure 1). The perceived caring dimension reported by McCroskey and Teven (1999) had a Cronbach Alpha reliability estimate above .90, and they noted that a similar instrument offered by Koehn and Croswell (1996) had an Alpha reliability estimate of .86.

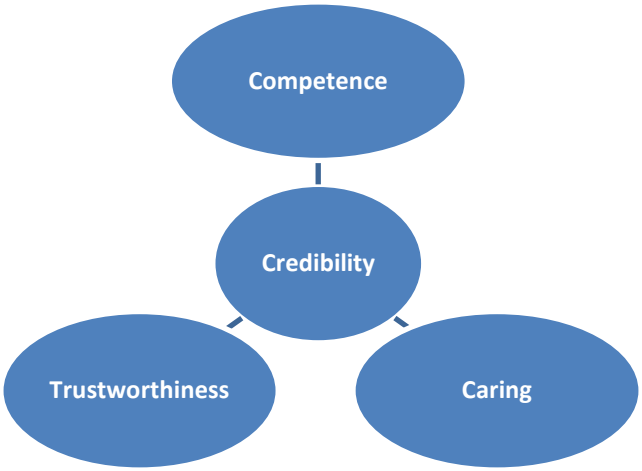

Figure 1. ***Three Dimensions of Credibility***

In 1999, McCroskey and Teven designed a study to determine if Teven and McCroskey's (1997) findings could be replicated outside of the communication context, taking into account other sources such as political figures and public figures. Furthermore, the (1999) study expanded not only the source types but also on the sample size which was based on 783 undergraduate students enrolled in three sections of a lower level, communication studies course at a large Eastern University. The outcomes of a broader data set provided justification for a refinement of Teven and McCroskey's 1997 instrument and also revealed that the measurement could be extended across a variety of sources beyond the educational setting.

While McCroskey and Teven's (1999) refinements made no changes to the three dimensions previously included (competence, trustworthiness, and caring), they did include changes to the grouping and rotations used in the various subscales. In this rendition, referred to as the Measure of Source Credibility Scale, contemporary theorists agree that credibility as a construct has three dimensions operationalized by an 18-item, 7-point bipolar semantic-differential scale composed of 3 subscales. Each of the subscales is inclusive of six traits: *competence* (intelligent/unintelligent,

untrained/trained, inexpert/expert, informed/uninformed, competent/incompetent, bright/stupid); *trustworthiness* (honest/dishonest, trustworthy/untrustworthy, honorable/dishonorable, moral/immoral, ethical/unethical, genuine/phony); *caring* (cares about me/doesn't care about me, has best interests at heart/doesn't have best interests at heart, self-centered/not self-centered, concerned with me/not concerned with me, sensitive/not sensitive, understanding/not understanding) (McCroskey & Teven, 1999).

McCroskey and Teven's 1999 Measure of Source Credibility Scale has since become the most widely accepted measure of credibility used by scholars today on the basis that the results of their study were so reliable, having replicated an earlier study while using a variety of sources and larger sample size. It was also the credibility measurement used in this study.

Credibility – Two Branches of Research

In general, there have been two primary areas on which credibility research in the educational setting has focused. Some scholars have been most interested in determining if various instructor characteristics (e.g., race, gender, sexual orientation) and communicative/non-communicative behaviors have an influence on student perceptions of credibility. Other scholars have centered their investigations on the assessment of student outcomes associated with perceived instructor credibility (Finn et al., 2009). In the section to follow, each of these emphases will be examined. It should be noted that the basis for the credibility study to follow, which focuses on best online instructional practices, is the category that emphasizes instructor behavior as an influential factor on credibility perceptions.

Results from a meta-analysis, inclusive of over 30 years of research, indicate that there are important associations between instructor characteristics/behaviors and student perceptions of instructor credibility (Finn et al., 2009). In fact, there are numerous studies that indicate that instructor characteristics/behaviors have an influence on student perceptions of instructor credibility. Some characteristics/behaviors influence student perceptions more than others.

For instance, Hendrix's 1998 study explored the way in which race influenced student perceptions of professor credibility at a large, four-year research institution in the Northeast. The results of this study revealed that while students did not personally believe that a professor's race affected the establishment of credibility, there was agreement that "Black professors had to work harder to establish their credibility" (Hendrix, 1998, p. 750). Furthermore, students indicated that different criteria were used for evaluating the credibility of a Black professor and that of his/her White counterparts. In particular, students in the study revealed that a Black professor's competence was more likely to be questioned, depending upon the subject matter that he/she taught (Hendrix, 1998). This finding is consistent with other studies that also establish that race, especially for Asian-Americans and African-Americans, is the target of negative credibility perceptions (Russ et al., 2002).

Glascock and Ruggiero's 2006 study offers another example in which instructor ethnicity plays a part in student perceptions of instructor credibility. Results from a MANCOVA analysis indicated that Caucasian[7] instructors rated higher than Hispanic

[7] The term "Caucasian" is used in this and other instances in this dissertation because it was the term used in the cited study. In all other instances, the term used when speaking of ethnicity or race is consistent with the definitions provided by the National Center for Education Statistics (NCES), in accordance with the 1997 Office of Management and Budget (OMB) standard classification scheme: "Under the OMB

instructors on perceptions of both competence and caring. This finding was consistent regardless of the ethnicity of the student offering the rating. While not detailed in the study, it was suggested that the reason that student ethnicity did not make a difference in ratings could have been due to "internalized oppression" (p. 205), by which members of a minority group actually accept negative stereotypes or perceptions and internalize them as true.

Gender is yet another instructor demographic factor that has been examined in relation to student perceptions of credibility. Research in this area, however, has not offered consistent results. For instance, Hargett (1999) reports that male instructors were rated as more credible than female instructors. On the contrary, Feldman (1993) reported that sex was not an influential factor in the evaluation of college professors but that when differences were reported, female instructors generally scored higher.

A study offered by Glascock and Ruggiero (2006), in which both ethnicity and gender were joined to assess student perceptions of "homophily" (when people like others who are similar to themselves), found that Hispanic students rated their Hispanic instructors higher in background homophily than their Caucasian instructors and that Caucasian students rated their Caucasian instructors higher in background homophily than their Hispanic instructors. While background homophily ratings were not significantly correlated with perceived teacher competence, the results indicated that there is a positive relationship among teacher homophily, trustworthiness, and caring. According to Glascock and Ruggiero (2006), this finding is consistent with Galguera's

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standards, race and ethnicity are considered separate concepts. 'Hispanic or Latino' is an ethnicity category, not a race category."

Race categories include: American Indian or Alaska Native, Asian, Black, Native Hawaiian or Other Pacific Islander, White, and Two or more races.

1998 study that also combined the effects of sex and ethnicity, indicating that students did show a preference for teachers of the same race but no preference for teachers of the same gender.

The sexual orientation of an instructor is yet another demographic factor that has been shown to influence student perceptions of credibility. Russ et al. (2002) reported that students perceive gay teachers to be far less credible than straight teachers. They further reported that students of a gay teacher also perceive that they learn considerably less, whereas learning with a straight teacher is reported as "twice as much" (p. 319).

Aside from demographic factors such as ethnicity/race, gender, and sexual orientation, student perceptions of instructor credibility have also been associated with various instructor communicative and/or non-communicative behaviors. In other words, instructors who are perceived to be credible by demonstrating competence, trustworthiness, and/or caring have been linked with some positive communicative and/or non-communicative behaviors. Behaviors that are deemed to be "affinity seeking" seem to have the greatest influence on credibility perceptions (McCroskey & McCroskey, 1986).

As noted in Frymier and Thompson (1992), McCroskey and Wheeless define "affinity" as "a positive attitude toward another person" (p. 388) and claim that the more that an instructor incorporates behaviors that are affinity-based, the more credible they will be perceived to be by their students. Some examples of communicative behaviors that students identify as conveying credibility/affinity include: being responsive and accommodating to student needs, being accessible to students, and demonstrating content expertise and verbal fluency (Myers & Bryant, 2004). Other studies have indicated that

even non-communicative variables such as the instructors' attire (Morris et al., 1996) and immediacy factors like eye contact and physical closeness (Andersen, 1979) influence student perceptions of credibility.

On the other hand, according to Thweatt and McCroskey (1998), those instructors who misbehave will realize lower credibility ratings. Kearney, Plax, Hays, and Ivey, as cited in Banfield, Richmond, and McCroskey (2006), define "misbehaviors" as "any teacher behavior that interferes negatively with instruction or student learning" (p. 63). For instance, teachers who are offensive (humiliate students, play favorites, intimidate, and/or are generally condescending, rude, and/or self-centered) and teachers who are indolent (fail to show up for classes, arrive late, forget test dates, neglect grading, and/or return papers late) fall within the misbehaviors category and will not likely be perceived by their students as having high credibility (Banfield et al., 2006).

From a different perspective, Brann et al. (2005) have recognized that an instructor's teaching philosophy may be the precursor to his/her communicative and/or non-communicative behaviors. The researchers sought to determine if student perceptions of instructor credibility differed based on the teaching philosophy that was used. While many teaching philosophies exist, the results of Brann et al.'s 2005 study indicated that instructors with a "progressive" teaching philosophy, in which students are viewed as "active learners whose own experiences are extremely important for learning and for the entirety of the education process" (p. 219), were rated higher in terms of credibility than those instructors who implemented a "transmissive" teaching philosophy, in which the instructors act as the primary source of "knowledge, expertise and authority" (p. 219). This is an important differentiation, especially with respect to this study, which

was similarly based on an instructor's choice of instructional practices. In particular, this study examines student perceptions of instructor credibility as a factor of the best online instructional practices that the instructor implements in the online classroom.

A second branch of credibility research is centered on the association between assessed student outcomes and perceived instructor credibility (Finn et al., 2009). Research indicates that students' cognitive learning is significantly related to their perceptions of instructor credibility. Put another way, the higher the credibility, the higher the learning (Thweatt & McCroskey, 1998).

According to the research of Brann et al. (2005), students who perceive their instructors to be credible also report gains in motivation, affective learning, and cognitive learning. Frymier and Thomspon's 1992 study, for instance, sought to investigate teacher communication strategies, such as affinity-seeking techniques, that were thought to enhance student perceptions of credibility. In this particular study, McCroskey and Young's 1981 two-dimensional source credibility scale was used to measure the credibility dimensions of competence and character, and Richmond's 1990 scale was used to operationalize a measure for motivation. The outcomes of this study validated several important points. First, teachers' use of affinity-seeking strategies was found to be significantly associated with positive student perceptions of both teacher competence and teacher character on the credibility scale. Second, but more importantly, however, is that positive student perceptions of competence and character were associated with student "motivation," defined by Brophy (1987) in Frymier and Thompson's 1992 study as a "student's tendency to find academic activities meaningful and worthwhile and to try to derive the intended academic benefits from them" (p. 205). Furthermore, it was found

that teachers' use of affinity-seeking strategies and motivation were also positively correlated. What the overall correlations indicate is that teachers who use affinity-seeking techniques in the classroom will be more likely to be perceived as credible and will also have students with higher levels of motivation. With respect to student outcomes, this finding is significant.

While Frymier and Thompson's 1992 study focused primarily on the outcome of student motivation, research focused on student outcomes in relation to student perceptions of instructor credibility is much broader. For example, other studies indicate that students who perceive their instructors to be credible will give the instructors higher evaluation scores (Teven & McCroskey, 1997), will likely take another class with the same instructor (Anderson, as cited in Thweatt & McCroskey, 1998), and will recommend their instructors to their peers (Nadler & Nadler, as cited in Brann et al., 2005). In Myers' 2004 study, the conclusion was drawn that students who perceive their instructors to be credible, as operationalized by McCroskey and Teven's 1999 Measure of Source Credibility Scale, will be more likely to participate in both in- and out-of-the-classroom activities, such as talking during scheduled class time and making use of instructor office hours or paying impromptu visits.

Credibility - Shortcomings in the Literature

The examination of credibility in general has yielded many research studies that have considered the three-dimensional construct in the context of education. And while the educational context has gained the attention of credibility scholars, there has been almost no consideration given to the fully online distance education setting.

As was described earlier, there is a substantial history of research that points to positive associations between instructor credibility and student outcomes in the traditional classroom, but no literature is available that has been situated in the distance education setting. The closest example in which credibility research was directed to the distance education setting only considered "the effects of camera angle and monitor placement in a simulated distance learning environment" (Jayasinghe, Morrison & Ross, 1997, p. 5). In this particular study, findings suggest that student perceptions of credibility are influenced by camera and monitor placement in a simulated distance-learning environment. Jayasinghe et al. (1997) linked these findings to the research of Gutenko (1991), who suggested that by maintaining a good camera-to-instructor distance, students would gain a sense of "immediacy." Another study that referenced distance education technology but that was focused on instructional technology use in the traditional classroom setting (Schrodt & Turman, 2005) indicated that instructors who used moderate amounts of technology, in various forms, were rated as being the most competent on a credibility measure, whereas instructors who use no technology at all were perceived as being the least competent.

While more recent credibility studies have begun to look at various online technologies, none have been based in a fully online distance education classroom. Recent studies of instructor credibility have investigated the effect of Twitter posts (Johnson, 2011), of Facebook self-disclosures (Mazer, Murphy, & Simonds, 2009), and of e-mail addresses (Livermore, Scafe, & Wiechowski, 2010).

Another significant gap in the literature pertains directly to the sample population in which credibility has traditionally been examined. When reviewing the literature, it

became obvious that the majority of the credibility studies that have been conducted were situated on traditional college campuses and thereby included traditional-age students, generally ranging in age from 18-24. Given that current demographic trends include a growing population of adult, minority, and female students, new research into credibility will need to explore the perceptions of a population that is more diverse. That being the case, this study was based at a large, four-year, public, open university that has an undergraduate population in which the median age is 32, 42 percent of the students self-identify as belonging to a minority, and 53 percent of the students are females.

Distance Education

Considering the significant demographic shifts of adult, minority, and female student populations described in Chapter One, it is not surprising that the demand for distance education in the form of online course offerings has never been higher (Sloate, 2010). Take, for instance, the demand faced by the research site of this particular study (described as a large, four-year, public, open university on the East coast). For this particular institution, it was reported that in Fiscal Year (FY) 2009, there were 196,331 online course enrollments, which represents 72 percent of the entire student population taking courses at a distance. By FY 2011, online course enrollments increased to 234,243, which represents 74 percent of all students taking distance courses.

The rise of distance education did not take place overnight. While data do suggest that more institutions than ever before are embracing distance education as a means to serve a growing number of students, a historical look reveals that the use of distance education to offer university-level courses is not a new phenomenon and actually has been a part of academia for over 100 years (Schulte, 2011). In 2008, Parker provided

an extensive historical look at distance education in which Hülsmann (2003) was cited as stating that

> from mail-based correspondence courses that originated in the late 19th and 20th centuries, through the use of television in the 1960's and 70's, up to the synchronous audio/video conferencing of the late 80's and early 90's, many U.S. colleges and universities have experimented with the use of technology to provide access to persons unable or unwilling to participate in classes held on campus (p. 2).

Ko (2004) described distance education as a process in which courses are taught in a variety of forms, none of which require learning to take place in the traditional classroom setting, where both the student and instructor need to be physically located in the same space at a precise time. The significance of distance education, which in part, accounts for the increasing demand of online classes, is that it offers students the freedom to take courses from virtually any location, at any given time of the day, despite conflicting life and time restrictions. For many students, particularly adults, minorities, and women, distance education is an appealing option that provides an opportunity for an education that might not otherwise be possible.

For each problem that distance education solves for students, it also poses new challenges that current research, such as this study, aims to examine. For instance, the growth of distance education demands a new approach to instruction in which instructors take on a variety of roles, from content experts to course design experts, and from motivators to mentors, working completely online and without the luxury of well-researched and documented how-to manuals (Massey, Schulte, 2011). Further, while

technology advances have led to a new realm of opportunity in distance education, this has simultaneously challenged traditional notions of what instructional quality means, what it looks like in an online classroom, and how instructors are to implement and measure it.

Best Online Instructional Practices

As distance education continues to grow in popularity, as suggested in the literature, it will be essential for educators and administrators to identify alternate instructional frameworks to best support the needs of their unique student populations while assuring the same instructional quality that is thought to be achieved in the traditional classroom setting. From a quality standpoint, it cannot be assumed that the same instructional practices used in traditional classrooms, such as the "seven principles of good practice in undergraduate education" offered by Chickering and Gamson (1987), will be transferable to the distance education format. In fact, LaMonica (2001) indicates that instructors often hold the misconception that courses offered in the traditional classroom setting will only require a simple transformation to be taught with the same level of quality in the distance education/online classroom setting. To the contrary, research suggests that not only does the format by which courses are offered require more than a simple transformation, but actually the pedagogical ways of thinking and the instructional practices must be reconsidered and in some cases completely revised (Hara & Kling, 1999).

Orellana, Hudgins, and Simonson (2009) suggest that in order to develop a "perfect" instructional design, one must be guided by quality standards. For many institutions, broad distance education standards are offered by their respective accrediting

body. As such, the same growth demands that higher education institutions are facing are also being realized by various accrediting bodies. The Council for Higher Education Accreditation (CHEA), for instance, reported in 2002 that the majority of distance learning is occurring at degree-granting colleges and universities that have gained regional accreditation. Of the 3,077 regionally accredited U.S. institutions, there are 1,979 that offer some form of distance-delivered programs and/or courses, some of which lead to degrees. Of this figure, 86 percent of the institutions are regionally accredited, which means that much of the pressure to offer quality standards rests on the accrediting body. In some cases, however, individual institutions are conducting more in-depth research to supplement the broad standards offered by the accrediting bodies. The Best Online Instructional Practices Study (BOIPS), first piloted in 2001 for the purpose of identifying a process of effective teaching and learning in the online environment (Abdul-Hamid, Whitesel, & Lewis, 2005), is a prime example.

While the BOIPS is detailed in Chapter Three, it should be noted in advance that the outcome of this mixed-methods, multi-phased, institution-specific study has successfully resulted in an online classroom inventory that consists of 38 specific instructional practices divided among the six broader headings shown below (McCollum & Abdul-Hamid, 2011):

- Continuous involvement and feedback from faculty (immediacy/presence)
- Incorporate learning modules (targeted and logically placed)
- Draw from experiences and introduce students to cultures and subcultures to add relevance
- Encourage multiple approaches to solving problems

- Encourage goal incorporation into the course
- Provide opportunities for collaborative learning

At the research site used for this study, faculty are provided with an online standards manual, again to supplement the standards offered by the institution's regional accreditor. This manual is referred to as the *Expectations for classroom set-up and online teaching* document. After several years of implementation of these practices, data indicate that instructors who use the defined instructional practices tend to have students with higher pass rates and lower withdrawal rates. What is unknown, however, is the nature of the relationship between the defined instructional practices and student perceptions of instructor credibility.

Conclusion

The primary focus of this review was to examine three domains of literature regarding credibility, distance education, and best online instructional practices. While there is a good amount of literature available in each respective domain, the review exposed significant gaps with respect to joining the three domains of literature and addressing the obvious overlaps. For instance, while numerous scholars have pointed to positive associations between student perceptions of instructor credibility and student outcomes (e.g., cognitive learning, higher motivation, and increased willingness to participate in and out of class), their work has primarily considered traditional-age students in the traditional classroom setting. Given the significant expansion of distance education enrollments, specifically for adult, minority, and female students, it is essential that the lens through which credibility has been examined in the past is broadened and that the aforementioned domains of literature are joined. With what is known about the

influences of instructor characteristics and instructor communicative and non-communicative behaviors on student perceptions of credibility in the traditional classroom setting, there is a distinct need to explore how these factors translate in the distance education setting, especially if student outcomes are at stake. As such, this study seeks to close the significant gaps revealed in the literature review by placing emphasis on student perceptions of credibility at a large, four-year, public, open university, bringing attention to a more diverse student population within the context of the distance education setting. Furthermore, an emphasis is placed on best online instructional practices in relationship to instructor credibility perceptions, an area not yet explored in the existing literature but one that is certainly important to consider.

While this chapter only touched on relative aspects of credibility, distance education, and best online instructional practices in order to provide the context for this study, the chapter to follow outlines the mixed methodology that was employed to determine the relationship between the best online instructional practices offered through BOIPS and student perceptions of instructor credibility at a large, four-year, public, open university that offers distance education via the online classroom.

CHAPTER THREE: METHODOLOGY

This study examines the relationship between best online instructional practices and undergraduate student perceptions of instructor credibility as defined on three dimensions: competence, trustworthiness, and caring. This chapter focuses on the methodology that was employed to conduct the study at hand. The chapter begins by briefly describing the mixed-methods research design as part of a two-phased process; following that is a description of the research participants and research site. As the chapter progresses, in-depth narratives are offered for each phase of the study to explain the data collection and data analysis procedures that were used to analyze the quantitative and qualitative results. Each section also includes an explanation of the anticipated limitations.

Mixed-Methods Research Design: Two-Phased Process

The theoretical framework of this study is based on the pragmatic epistemological paradigm identified by Tashakkori and Teddlie (as cited in Mertens, 2005) as "the underlying philosophical framework for mixed-methods research" (p. 26). Early pragmatists and philosophers, such as John Dewey, William James, George Herbert Mead, Arthur F. Bentley, and Charles Sanders Peirce, rejected the notion that one could assess truth by virtue of a single scientific method. Later, Abraham Kaplan, and Richard Rorty expanded on this work by placing greater emphasis on "common sense and practical thinking" (Mertens, 2005, p. 26).

In light of the pragmatic paradigm and in the spirit of practical thinking, this study employed a mixed-methods design in which the primary data were collected in roughly two phases, as shown in Figure 2.

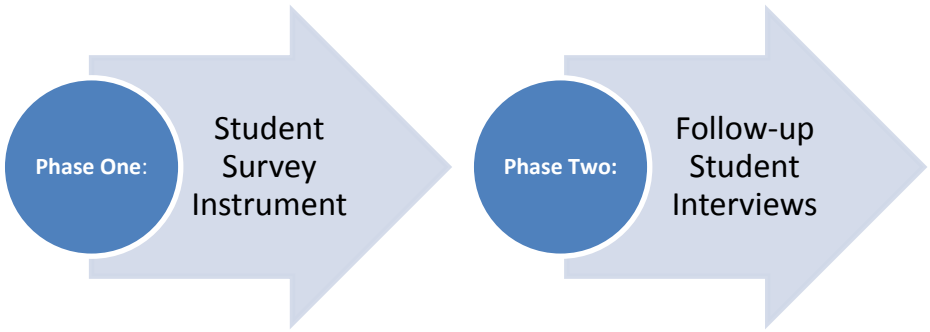

Figure 2. ***Two-Phased Mixed-Methods Research Design***

A mixed-methods research design facilitates the collection and analysis of both quantitative and qualitative data. While data from each design could independently provide information necessary for drawing important inferences, researchers have suggested greater confidence in study findings resulting from the use of a combination of collection instruments (Onwuegbuzie & Leech, 2006). For instance, according to Mertens (2005), the collection of one type of data can provide the basis for a second type of data. As a result, inferences can be made through the analysis of both types of data, allowing the researcher to confirm or disconfirm earlier assumptions and/or to gain additional insight.

The Research Participants

Given that instructor credibility exists in the minds of students (McCroskey, 1998), there is an apparent need to learn more from students (the experts) situated in the fully online distance education classroom setting. As such, the participants for this study consisted of undergraduate students who were enrolled in multiple sections of a fully online upper-level communications course. Participants selected likely included students close to graduation, given the nature of upper-level courses, which are generally taken near the end of an academic program.

Prior to inviting the identified participants to contribute their time to the study, the appropriate course administrators were consulted to gain the required permission. Specifically, the course administrators were given the opportunity to review, in advance, the written procedures for the study, the participant consent and confidentiality form, and the online student survey instrument. Student participation in the study was on a volunteer basis, and anonymity was preserved.

The Research Site

The study took place at a large, four-year, public, open university on the East coast. The university was selected as the site of the investigation for a number of reasons, including its experience in offering online classes, its extensive inventory and breadth of courses offered in the online format, as well as its vast and diverse student population.

To speak to the experience of this institution, it has become a benchmark for the non-traditional educational enterprise and is considered to be a leading provider in distance education. From the time of the university's founding, it has committed itself to offering programs and services that are highly accessible. To meet this commitment, the university uses an online course delivery platform that offers both synchronous (e.g., instant messaging and real-time chat functions) and asynchronous (e.g., e-mail and virtual conferencing) communication modalities to a vast student population. In FY 2011, the university had more than 96,000 students, of which 74 percent were taking courses at a distance. This number far dwarfs the 26 percent of students enrolled in the regular classroom core, making this university one of the largest public providers in the world offering courses and programs in the online format.

In addition, this university is known for its extensive inventory and breadth of online classes. Its inventory includes over 130 undergraduate and graduate program options, ranging from bachelor's and master's degrees and certificates to doctoral degrees, in subjects ranging from scientific disciplines to the social sciences. Of these course offerings, approximately 90 percent are offered in a fully online format.

Finally, this institution was selected as the research site because it prides itself on serving diverse student populations, mostly adults, much like the populations described in Chapter One. Approximately 44 percent of the entire student population identifies themselves as belonging to a racial or ethnic minority. In fact, this university reports having enrolled more African-American students than each of the four individual historically black colleges and universities in its home state. Furthermore, more than 53 percent of the institution's overall student population is female.

Phase One Methodology: Online Student Survey Instrument

Phase One of the proposed study was designed to address the first research question:

RQ1. Which best online instructional practices do students identify as influencing their perception of instructor credibility as defined on three dimensions: competence, trustworthiness, and caring?

The first phase relied on an online student survey instrument. The survey instrument consisted of four parts that included a combination of forced response and optional comment items.

Part I of the survey required participants to provide demographic data such as age range, gender, ethnicity/race, number of U.S. courses taken fully online, number of U.S. courses taken face-to-face, and current enrollment status (full-time/part-time).

Part II of the survey focused on measuring student perceptions of instructor credibility as defined on three dimensions (competence, trustworthiness, and caring). In this section, instructor credibility was operationalized by using McCroskey and Teven's Measure of Source Credibility Scale (1999), detailed later in this chapter. The student responses from Part II of the instrument were used in two ways. First, the student responses allowed the researcher to verify that the fully online instructor that the student had identified for the purpose of responding to the survey instrument was, in fact, perceived to be highly credible with respect to the credibility dimensions defined. Second, the student responses from Part II were compared against the responses that were collected in Part III, in which 38 best online instructional practices were offered.

Part III of the survey centered on measuring student perceptions of instructor credibility in relation to 38 best online instructional practices identified in the Best Online Instructional Practices Study (BIOPS), also detailed later in this chapter.

In the final section, Part IV, participants were given an opportunity to state whether they would be willing to contribute further to the study through an in-depth follow-up interview. The follow-up interview took roughly 30 minutes and was hosted in an online synchronous chat room. For those participants who agreed to participate in the follow-up interview, an e-mail address was requested such that the participants could be contacted to schedule an online meeting. As an incentive for voluntary participation, and in order to increase response rates, students who participated in a follow-up interview were entered into a random prize drawing.

Measure of Source Credibility Scale

As mentioned earlier, Part II of the survey instrument utilized the Measure of Source Credibility Scale designed by McCroskey and Teven (1999) to evaluate student perceptions of instructor credibility across each of three dimensions: competence, trustworthiness, and caring. This Measure of Source Credibility Scale includes 18 items, each rated on a 7-point semantic-differential scale. The 18 items are divided into three main headings that are noted by the credibility dimensions (competence, trustworthiness, and caring), each with a subscale inclusive of six traits, as shown below (McCroskey & Teven, 1999):

- ***Competence***
  - intelligent/unintelligent
  - untrained/trained
  - inexpert/expert
  - informed/uninformed
  - competent/incompetent
  - bright/stupid
- ***Trustworthiness***
  - honest/dishonest
  - trustworthy/untrustworthy
  - honorable/dishonorable
  - moral/immoral
  - ethical/unethical
  - genuine/phony
- ***Caring***
  - cares about me/doesn't care about me
  - has best interests at heart/doesn't have best interests at heart
  - self-centered/not self-centered
  - concerned with me/not concerned with me
  - sensitive/not sensitive
  - understanding/not understanding

When responding to the survey, participants were asked to think of the single most credible instructor that they had taken a fully online course with in the past year. Once they had a specific instructor in mind, participants were directed to complete the

scale, indicating their impression of the selected instructor by choosing the survey button that most appropriately reflected their feelings. Typically, the survey button located closest to the term reflected the strongest feelings. The survey button in the middle represented neutral feelings. However, several of the bipolar semantic-differential scales were intentionally reversed to reduce bias in the participant responses.

Validity and Reliability of the Source Credibility Measure

As cited in Mertens (2005), Messick and Moss suggest that validity is the most essential consideration in test evaluation. Validity is critical to establish in order to ensure that the measuring device used is actually measuring what it is intended to measure. In this study, we aimed to measure student perceptions of instructor credibility as defined on three dimensions by using the Measure of Source Credibility Scale designed by McCroskey and Teven (1999). This instrument, which offers generalizability, has been used in various contexts in which the "source" has ranged from political and public figures (Teven & McCroskey, 1999) to interpersonal contacts (e.g., supervisors) (Haskins, 2003). Furthermore, the use of the Source Credibility Measure in a wide spectrum of contexts over the years indicates both "predictive" and "construct" validity (McCroskey & Young, 1981), which this study will leverage.

According to Mertens (2005), the extent to which a measurement instrument is free of error is an indication of "reliability." The more reliable an instrument is deemed to be, the better it will provide the researcher with an estimate of the attribute under study. For the purposes of this study, it is important to consider the reliability of the Source Credibility Scale (McCroskey & Teven, 1999) to ensure that the measurement

will in fact offer the best estimate when measuring student perceptions of instructor credibility in relationship to best online instructional practices.

While the credibility instrument offered by McCroskey and Teven (1999) has not been used for the specific purpose of measuring student perceptions in the online classroom context, the instrument was developed to offer situational flexibility. In fact, given the previous and consistent Alpha reliability coefficients reported by Teven and McCroskey (1997) and McCroskey and Teven (1999), respectively, as .89/.85 for competence, .83/.92 for trustworthiness, and .93/.92 for caring, the Measure of Source Credibility has become the leading credibility instrument used by scholars across various disciplines, and it has been deemed to be reliable.

Best Online Instructional Practices Study (BOIPS)

Research suggests that good practices throughout education in general are in some ways also compatible with good practices in distance education. This assertion is accepted, in part, by large educational agencies. These agencies include the American Association of Higher Education (AAHE), regional accrediting bodies of the Commission on Higher Education, and even distance education-specific organizations like the Sloan Consortium. Given that "good practices" is such a broad concept, this study focuses primarily on those "instructional practices" that are linked to student success (higher pass rates and lower withdrawal rates) in the online classroom.

The best instructional practices offered through the Best Online Instructional Practices Study (BOIPS) (McCollum & Abdul-Hamid, 2011) were used in developing the Phase One, Part III student survey instrument as a means to measure student perceptions

of instructor credibility as linked to the dimensions of competence, trustworthiness, and caring.

According to Keeton et al. and to Lewis and Abdul-Hamid, as cited in Abdul-Hamid et al. (2005), the BOIPS was initiated in 2001 as a pilot to "identify processes of effective teaching and learning in the online environment" (p. 1). Since the initial pilot, there have been multiple phases of the study completed, using a mixed-methods approach (Figure 3).

(Ko, 2010)

Phase One - 2001-2002
- Meta-analysis of effective teaching practices
- Development of study instrument
- Pilot with small sample of exemplary faculty

Phase Two - 2003-2005
- Representative sample, learn how best practitioners implement practices
- Test effectiveness, assess learning outcomes

Phase Three - 2006-Present
- Enhanced instructional practices inventory, creation of online classroom inventory

Figure 3. ***BOIPS History — Mixed-Methods Design***

During Phase One, a randomly selected sample of 150 faculty members, with a participation rate of 76 percent, were invited to assist in the identification of effective online instructional practices. These data, in confluence with information from a meta-analysis of traditional teaching practices and online classroom evaluation data, served as the guide for the development of a study instrument. In Phase Two, faculty-specific interviews were conducted (30 faculty participants from Phase One) in an effort to gain in-depth information about how the identified online instructional practices were being

implemented in the distance education classroom. These data were once again linked with classroom evaluation results as a "proxy for actual learning outcomes" (Center for Teaching and Learning, n.d., p. 6). In the final phase, the goal was to measure students' learning outcomes by collecting data from courses that were identified as having implemented the best online instructional practices. The outcome of Phase Three resulted in the best online instructional practices inventory (Appendix D) that consists of 38 specific instructional practices, divided among the six broader headings listed below (McCollum & Abdul-Hamid, 2011):

- Continuous involvement and feedback from faculty (immediacy/presence)
- Incorporate learning modules (targeted and logically placed)
- Draw from experiences and introduce students to cultures and subcultures to add relevance
- Encourage multiple approaches to solving problems
- Encourage goal incorporation into the course
- Provide opportunities for collaborative learning

The overall findings of the BOIPS reveal that the commonly accepted face-to-face instructional strategies may need major enhancements when applied to the distance education environment. In particular, effective online instruction will need pedagogical approaches that are structured and that provide an environment that is interactive (Ko, 2010). With respect to student outcomes, the six best online instructional practices, inclusive of 38 sub-practices, have been correlated with 10-20 percent increases in success rates and with a 5-12 percent reduction in withdrawal rates (McCollum & Abdul-Hamid, 2011).

For Part III of the online student survey instrument, participants were provided with a series of 38 survey items focused on the 38 specific online instructional practices

identified in the BOIPS. Survey items were posed in such a way as to capture student perceptions of online instructional practices.

Phase One Data Collection and Analysis Procedures

An initial online student survey instrument was developed using Google Docs, which includes an online survey tool. The initial online student survey instrument was then shared with several survey experts as part of a pilot study to solicit feedback and suggestions for improvement. Once the online survey questions were finalized, approval was requested from the institutional review board. After approval was granted, the instrument was administered to the participants.

In addition to the online student survey instrument (Appendix B), an introduction to the study was also provided to survey participants in order to ensure understanding of key terms/concepts as well as expectations. In particular, definitions were provided where necessary. In this instance, it was critical that the meaning of each of the three dimensions of credibility—competence, caring, and trustworthiness —were explicit.

Survey participants were allotted a three-week time period, which began at the start of the fall 2012 academic semester, to complete the online student survey instrument. Periodic e-mail messages were sent to non-responsive participants as reminders to ensure full participation.

Upon closing the survey period, response data were extracted and saved using Microsoft Excel. The quantitative data were then analyzed via an appropriate format found within the statistical software referred to as SAS.

Phase One Anticipated Limitations

This study did not incorporate a means to assess the characteristics of the student participants prior to administering the online survey instrument. For instance, there was no specific measure in which access has been granted to identify a student's educational history, including, but not limited to, years of study, grade point average, or past college experience, all of which could have had an impact on the student perceptions of credibility sought in this study. Furthermore, there was no way to assess the demographics of the student participants prior to administering the online survey instrument.

Phase Two Methodology: Follow-up Student Interviews

Phase Two of the study was designed to address the final research question:

RQ3. How do students describe the teaching practices of a credible online instructor?

Phase Two Data Collection Procedures

The qualitative approach used for data collection purposes in Phase Two is referred to as synchronous based online interviewing (O'Connor, Madge, Shaw, & Wellens, 2008). Synchronous based online interviewing is much like face-to-face interviewing in that it occurs in "real time," enabling the respondents to immediately answer questions posed by the researcher (Chen & Hinton, 1999). The primary difference with face-to-face interviewing is that online synchronous interviews are conducted at a distance, whereby the need for a physical meeting location is eliminated. As such, Phase Two student interviews were conducted by way of an online chat room embedded within the Learning Management System (LMS) already available at the research site. This format not only offered a familiar mode of communication for the

research participants in the study, who already rely on the LMS for course participation, but there are other notable advantages that cannot go overlooked. In particular, versatility factors such as venue, transcription, cost, and speed of response made synchronous interviewing by means of an online chat setting the ideal format for the purposes of this study.

First, given that the institutional backdrop for this study was primarily based in an online environment, it was important to acknowledge that the student sample would most likely be geographically dispersed. It was known in advance that students at the research site are often located around the globe and are taking courses virtually via their computers. Therefore, the choice of conducting interviews via an online synchronous chat setting made sense over the traditional option of face-to-face interviewing, which could have been both timely and expensive if travel were a consideration.

A second advantage of using an online synchronous chat setting as the format to conduct student interviews was that written transcripts were automatically generated in real time. This factor offered a tremendous savings in both time and cost in that the researcher did not have to transcribe conversations after the fact. The real-time transcript generation also eliminated the potential for interviewer translation error, as the text was automatically captured.

Response speed was a third advantage of using online synchronous interviewing. Given the fast-paced nature of the online chat setting, there is little time in which respondents can think about their answers, and thus some believe that the responses captured are more "honest in nature" (O'Connor et al., 2008, p. 275).

Within the synchronous chat setting described above, this study utilized one of the interview structures described by Berg (2007). Berg acknowledges that there are various structures that one can choose from when conducting an interview. Included are at least three major interview categories agreed upon in the literature: the standardized interview (formal or structured), the unstandardized interview (informal or nondirective), and the semi-structured (guided-semi-structured or focused) interview. For this study, the semi-structured interview was implemented. This choice was based primarily on the fact that the wording of the questions needed to be flexible, such that the interviewer could modify questions if clarification was needed. Given that the interviews were conducted in an online format, this flexibility was critical to ensure that the Phase Two research question was fully addressed.

Phase Two Data Analysis Procedures

The qualitative, in-depth follow-up online synchronous interview responses were systematically managed to ensure that all necessary data were recorded. Using the process described by Eliot (2011), the responses from the online synchronous student interviews were qualitatively analyzed.

It is important to acknowledge that one of the anticipated limitations to the data coding process described by Blythe (2007) is that "reliability is established by showing that different people would code a set of texts, visuals, audio, video and so forth similarly" (p. 219). While there was a systematic process established for coding and categorization, as well as a number of levels of analysis performed, it is acknowledged that personal perceptions and/or assumptions could play a role, thus impacting reliability.

To account for this, a qualitative researcher was invited to review a small transcript sample to determine if similar coding would be established.

Phase Two Anticipated Limitations

There are a number of models (Chen & Hinton, 1999; Gaiser, 1997; Mann and Stewart, 1999; O'Connor & Madge, 2001) that have been used successfully for conducting online synchronous interviews, and many researchers can attest to the benefits of using this modality. However, there are also limitations to using such a format, which include the lack of visual and physical cues, issues relating to confidentiality, and the potential for technological complications.

By using the online chat room as the setting for the online synchronous interviews, the chief limitation to address was lack of "visuality" (O'Connor et al., 2008, p. 281). In a traditional face-to-face interview, the researcher and participant are able to build on visual cues to assess the situation. In the online setting, however, there is no physical connection outside of the text appearing on the computer screen. O'Connor et al. (2008) further explain that "textbooks often advocate for the use of non-verbal communication, such as silences and nods and smiles, in order to encourage respondents to expand their answers to questions. The lack of visuality [in the online setting] makes such methods impossible" (p. 281). In order to address this limitation, participants were permitted to use emoticons. Furthermore, the semi-structured interview format offered enough flexibility that questions could be elaborated on when necessary.

The second limitation raised by the Phase Two methodology is that confidentiality must be taken into consideration anytime an online platform is used. Maintaining confidentiality is an ethical responsibility of the researcher; the privacy of

study participants must be safeguarded. The researcher must handle the participant data and reporting of that data in such a way that the data cannot be personally associated with any particular individual (Mertens, 2005). While there is no guarantee that a breach in confidentiality would not arise, measures had to be taken to reduce such possibilities. By using a synchronous chat setting embedded into the LMS hosted by the research site, there was university oversight in place. Specifically, the only way for students to access the system was by using a personal log-in and password that are strictly controlled. Only the researcher had access to the chat settings in which the conversations were captured. And while the participants' names appeared in the chat room, all identifying information was redacted and replaced with participant identification numbers before transcripts were printed or stored electronically outside of the password-protected site.

A final limitation to be considered with respect to the overall design of Phase Two was the possibility for technological complications during the interview process. To prepare for such a challenge, the researcher provided participants with a protocol in advance of the online synchronous interview so that a back-up plan was in place. The back-up plan included an immediate reboot and, if necessary, re-scheduling for a later time.

Summary

This chapter presented the mixed-methodological approach that was employed in this study as a means to assess the relationship between best online instructional practices and undergraduate student perceptions of instructor credibility. In particular, two phases of the study were described. Phase One was based on an online survey instrument, and

Phase Two was based on online synchronous interviews. The questions that were used during the online synchronous interviews appear in Appendix C.

CHAPTER FOUR: RESULTS OF THE SURVEY

Introduction

This study was based on a mixed-methods research design in which the primary data were collected in roughly two phases. The first phase involved a multi-part student survey instrument, and the second phase involved follow-up student interviews. This chapter describes the results of Phase One, which was designed to address RQ1: Which best online instructional practices do students identify as influencing their perception of instructor credibility as defined on three dimensions: competence, trustworthiness, and caring?

Survey Recruitment and Response Rate

Undergraduate student survey participants were recruited from a large, four-year, public, open university on the East coast. Additionally, the survey participants were recruited based on their enrollment in one of seven fully online upper-level courses from within the communication field of study. Each student who was officially registered for one of the identified courses was provided with a Google-based online survey invitation which was sent via e-mail. In sum, 453 undergraduate students were invited to participate in the survey.

Upon receiving the e-mail invitation, survey participants were allotted a three-week time period, which began at the start of the fall 2012 academic semester, to complete the online survey. Periodic e-mail messages were sent as reminders to non-responsive participants to encourage full participation. Student participation in the online survey was volunteer-based; however, to be eligible to participate, volunteers were required to electronically provide consent via a check box option before completing the

survey. The check box also asked participants to confirm that they were at least 18 years of age. The informed consent form is provided in Appendix A, and the complete survey is provided in Appendix B.

Of the 453 undergraduate students who were provided with an online survey invitation, 72 (16 percent) responded. Due to an inconsistency in the responses provided by five students, their information was removed from the final data set, leaving 67 responses remaining for analysis.

Survey Participant Profile

Part I Survey Results

In Part I of the survey, student participants were required to provide demographic data including gender, age range, ethnicity/race, number of U.S. courses taken fully online, number of U.S. courses taken face-to-face, and current enrollment status (full-time/part-time). The final sample consisted of 67 undergraduate students. The majority of the sample was female (70 percent), of which 51 percent were minority (Table 1).

Table 1

Survey Participant Profile by Gender and Ethnicity

[*n* (%)]	**Student Ethnicity/Race**						
Student Gender	**Black**	**Asian**	**Hispanic/ Latino**	**American Indian/ Alaska Native**	**Other**	**White**	**Total**
Female	14 (29.79%)	3 (6.38%)	4 (8.51%)	1 (2.13%)	2 (4.26%)	23 (48.94%)	47 (70.1%)
Male	4 (20.00%)	1 (5.00%)	2 (10.00%)	0 (0%)	0 (0%)	13 (65.00%)	20 (29.9)
Total	18 (26.86%)	4 (5.97%)	6 (8.95%)	1 (1.49%)	2 (2.98%)	36 (53.73%)	67 (100%)

Participants' age range varied across the sample; however, adult students aged 25 years and older accounted for 82 percent of the population, of which the majority were female (Table 2).

Table 2

Survey Participant Profile by Age and Gender

[*n* (%)]	**Student Gender**		
Student Age	**Female**	**Male**	**Total**
18-24 years old	8 (66.67%)	4 (33.33%)	12 (17.91%)
25-29 years old	13 (86.67%)	2 (13.33%)	15 (22.38%)
30-34 years old	8 (66.67%)	4 (33.33%)	12 (17.91%)
35-39 years old	4 (50.00%)	4 (50.00%)	8 (11.94%)
40-45 years old	8 (66.67%)	4 (33.33%)	12 (17.91%)
>45 years old	6 (75.00%)	2 (25.00%)	8 (11.94%)
Total	47 (70.14%)	20 (29.85%)	67 (100%)

Students' ethnicity/race also varied across the sample, including 54 percent White, 27 percent Black, 9 percent Hispanic/Latino, 6 percent Asian, 3 percent "other," and 1 percent American Indian/Alaska Native. The majority of the sample (57 percent) self-reported as being enrolled full-time, taking 12 credits or more per semester (Table 3).

Table 3

Survey Participant Profile by Ethnicity/Race and Enrollment Status

[*n* (%)]	Student Enrollment Status		
Student Ethnicity/Race	**Full-time student (taking 12 credits or more per semester)**	**Part-time student (taking fewer than 12 credits per semester)**	**Total**
Black	11 (61.11%)	7 (38.89%)	18 (26.86%)
Asian	2 (50.00%)	2 (50.00%)	4 (5.97%)
Hispanic/Latino	5 (83.33%)	1 (16.67%)	6 (8.95%)
American Indian/Alaska Native	0 (0%)	1 (100%)	1 (1.49%)
Other	1 (50.00%)	1 (50.00%)	2 (2.98%)
White	19 (52.78%)	17 (47.22%)	36 (53.73%)
Total	38 (56.71%)	29 (43.28%)	67 (100%)

All of the 67 survey respondents reported having experience in both fully online courses and face-to-face courses, although nine students noted that they had taken fewer than five face-to-face courses, which means that it is possible that these students may not have taken any face-to-face courses. With respect to the format of courses, 90 percent of the respondents indicated that they had taken at least five fully online courses, and 87 percent indicated that they had taken five or more traditional face-to-face courses (Table 4). This outcome is consistent with the online enrollment trends reported by the National Center for Education Statistics.

Table 4

Survey Participant Profile by Course Format

[*n* (%)]	How many U.S. college courses have you taken in a traditional face-to face format?	How many U.S. college courses have you taken in a fully online format?
<5 courses	9 (13.43%)	7 (10.44%)
5-10 courses	13 (19.40%)	14 (20.89%)
11-15 courses	9 (13.43%)	21 (31.34%)
16-20 courses	5 (7.46%)	10 (14.92%)
>20 courses	31 (46.26%)	15 (22.38%)
Total	67 (100%)	67 (100%)

Overall, the survey respondent population was diverse across various demographic factors. This population, which consisted of adults (82 percent), minorities (47 percent), and female students (70 percent), was also highly reflective of the demographics specifically addressed in the literature review and to a great extent that of the research site as well.

Survey Analysis

To analyze the data obtained via Parts II and III of the online survey, response data were extracted and saved using Microsoft Excel. The quantitative data were then manipulated in varying ways using the statistical software referred to as SAS. A number of descriptive reports were produced, including one-way and two-way contingency

tables, as well as tables showing central tendency measures. With respect to statistical reporting, the original intent was to use Chi-Square testing as a means to assess the relationship between best online instructional practices and instructor credibility; however, with the limited response rate, the reports revealed cell counts less than five, and, in some cases, cell counts of zero. As such, Chi-Square testing was not an appropriate statistic to use for data analysis in this study because the data were skewed (Ott, 1993). This may have resulted from the fact that survey participants were asked to think of the most credible instructor, thus causing the majority of responses to fall in specific cells. As a recommended alternative to Chi-Square testing, the Fisher's Exact Test was used to test for statistical significance between best online instructional practices and instructor credibility across each of three dimensions (competence, trustworthiness, and caring).

Survey Results

Part II Survey Results

Part II of the survey was designed with two primary functions in mind. First, the student responses from Part II were needed so that the researcher could verify that the fully online instructors whom the participants had in mind when completing the survey were in fact perceived to be credible on all three dimensions (competence, trustworthiness, and caring). Second, the student responses from Part II of the survey were needed so that data relating to perceived credibility could be crossed with the responses collected in Part III of the survey, in which 38 best online instructional practices were offered. This section will describe the outcome of these two primary efforts.

Verifying Perceived Instructor Credibility

As described in Chapter Three, Part II of the survey utilized the Measure of Source Credibility Scale designed by McCroskey and Teven (1999) to assess student perceptions of instructor credibility as defined on three dimensions (competence, trustworthiness, and caring). Participants were asked to respond to 18 items, each on a 7-point semantic-differential scale. Several of the semantic-differential scales were intentionally reversed to reduce bias in the participant responses. Prior to responding to the 18 items, student participants were asked to think of the single most credible instructor (based on the credibility definition provided) with whom they had taken a fully online course in the past year. The survey instructions prompted student participants to respond to each of the 18 items with the same credible instructor in mind. While students were never asked to identify the instructor by name, they were asked to provide the instructor's gender.

Of the 67 survey respondents, 48 (72 percent) indicated that the credible instructor whom they had in mind and on whom they would base the rest of the survey responses was a female (Table 5). If it is assumed that all survey respondents had equal opportunities to experience male and female instructors, this finding would refute Hargett's study (1999) that reported that male instructors were rated as more credible than female instructors. On the other hand, it could be seen as consistent with Feldman's credibility study (1993) that reported that gender was not an influential factor in the evaluation of college professors but that when differences were reported, female instructors generally scored higher. Nonetheless, without information about the gender of all instructors students were exposed to, these observations are speculative.

Table 5

Perceived Instructor Credibility by Student Gender and Instructor Gender

[*n* (%)]	Instructor Gender		
Student Gender	**Female**	**Male**	**Total**
Female	35 (74.47%)	12 (25.53%)	47 (70.14%)
Male	13 (65.00%)	7 (35.00%)	20 (29.85%)
Total	48 (71.64%)	19 (28.35%)	67 (100%)

Of the 47 females that responded to the survey, 75 percent identified a female instructor as the most credible instructor that they could think of. Of the 20 males that responded to the survey, 65 percent identified a female instructor as the most credible instructor that they could think of. According to Galguera's 1998 credibility study (1998), as cited in Glascock and Ruggiero (2006), students do not show preference to teachers of the same gender. As with the prior observations about gender, the survey profile in this study may support Galguera's (1998) findings, however, we do not know to what extent, as the necessary information about the gender of all student instructors is not available.

The highest possible rating that an instructor could have earned on each credibility dimension was a score of 42. This high score was based on a 7-point Likert scale with six questions for each of the three credibility dimensions. As such, each credibility score could range from 6 to 42. When comparing Part II survey data, the highest score of 42 was selected most often by individual survey respondents across all three credibility dimensions (Table 6).

Table 6

Survey Participants: Measure of Central Tendency for Credibility Summary Scores

Credibility Dimension Score Range = 6-42	Mean	Std Dev	Minimum	Maximum	Mode	N
Competence	39.19	4.26	23.00	42.00	42.00	67
Caring	35.91	6.39	15.00	42.00	42.00	67
Trustworthiness	39.45	3.93	22.00	42.00	42.00	67

For the credibility dimension of trustworthiness, the highest score of 42 was selected by 38 respondents (57 percent). For competence, the highest score of 42 was selected by 33 respondents (49 percent), and for caring, the highest score of 42 was selected by 21 respondents (31 percent). When crossing the credibility scores with instructor gender, both male and female instructors ranked relatively high across all three dimensions (Table 7), when considering the proportion of female instructors (48) and male instructors (19) identified overall in Table 5.

Table 7

Perceived Instructor Credibility by Instructor Gender and Credibility Dimension with Highest Score

[*n* (%)]	Credibility Dimensions		
Instructor Gender	**Trustworthiness Score of 42**	**Competence Score of 42**	**Caring Score of 42**
Female	29 (76.32%)	26 (78.79%)	16 (76.19%)
Male	9 (23.68%)	7 (21.21%)	5 (23.81%)
Total	38 (56.72%)	33 (49.25%)	21 (31.34%)

These findings are important because they provide validation that the instructors on whom the survey participants based their responses were perceived to be credible, which accomplished the first goal of Part II of the survey.

Part III Survey Results

Part III of the survey centered on measuring student perceptions of instructor credibility in relation to 38 best online instructional practices, grouped into one of six broader categories, as identified in the Best Online Instructional Practices Study (BOIPS) (McCollum & Abdul-Hamid, 2011). The Best Online Instructional Practices Inventory is available in Appendix D; however, for brevity, the following is shared:

- Continuous involvement and feedback from faculty (immediacy/presence)
  - 9 sub-items
- Incorporate learning modules (targeted and logically placed)
  - 7 sub-items
- Draw from experiences and introduce students to cultures and subcultures to add relevance
  - 8 sub-items
- Encourage multiple approaches to solving problems
  - 5 sub-items
- Encourage goal incorporation into the course
  - 6 sub-items
- Provide opportunities for collaborative learning
  - 3 sub-items

With respect to instructions, student survey participants were prompted to respond to each of the 38 best online instructional practice items with the same credible instructor in mind, which again was validated in the data collected from Part II. Survey items were posed in such a way to capture student perceptions of the 38 online instructional practices using a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

The highest possible score that an instructor could have earned on each of the six best online instructional practices varied because the number of sub-items differed for

each; however, when comparing Part III survey data, the highest possible score was selected most often across each of the six best online instructional practices (Table 8).

Table 8

Survey Participants: Measure of Central Tendency for Best Online Instructional Practices Scores

Best Online Instructional Practices and Score Range	Mean	Std Dev	Minimum	Maximum	Mode	N
Continuous involvement and feedback from faculty (immediacy/presence) Score Range = 9-45	40.82	4.88	21.00	45.00	45.00	67
Incorporate learning modules (targeted and logically placed) Score Range = 7-35	30.16	4.48	18.00	35.00	35.00	67
Draw from experiences and introduce students to cultures and subcultures to add relevance Score Range = 8-40	35.04	5.41	16.00	40.00	40.00	67
Encourage multiple approaches to solving problems Score Range = 5-25	19.63	4.44	9.00	25.00	25.00	67
Encourage goal incorporation into the course Score Range =6-30	24.00	5.22	12.00	30.00	30.00	67
Provide opportunities for collaborative learning Score Range = 3-15	12.69	2.36	6.00	15.00	15.00	67

Part III survey results suggest that online instructors who were perceived to be credible by the survey respondents implemented each of the six best online instructional practices to some degree. Referring to the best online instructional practices summary scores, the practice of providing *continuous involvement and feedback to students*

received the highest overall summary score (91 percent), followed by *draw from experience and introduce students to cultures and subcultures to add relevance to the class* (88 percent), followed third by *incorporate learning modules that are targeted and logically placed* (86 percent) (Table 9).

Table 9

Survey Participants: Best Online Instructional Practices Summary Scores

Best Online Instructional Practices and Highest Summary Score Possible	**Survey Participants [*Summary Score* (%)]**
Continuous involvement and feedback from faculty (immediacy/presence) (highest possible score [67 X 45] = 3015)	2735 (90.71%)
Draw from experiences and introduce students to cultures and subcultures to add relevance (highest possible score [67 X 40] = 2680)	2348 (87.61%)
Incorporate learning modules (targeted and logically placed) (highest possible score [67 X 35] = 2345)	2021 (86.18%)
Provide opportunities for collaborative learning (highest possible score [67 X 15] = 1005)	850 (84.57%)
Encourage goal incorporation into the course (highest possible score [67 X 30] = 2010)	1608 (80.00%)
Encourage multiple approaches to solving problems (highest possible score [67 X 25] = 1675)	1315 (78.51%)

Part II Survey Results (Instructor Credibility) Crossed With Part III Survey Results (Best Online Instructional Practices)

To assess the relationship between best online instructional practices and instructor credibility and to test for statistical significance, the Fisher's Exact Test was used. To use this statistical measure, it was necessary to have a 2x2 contingency table. In order to accomplish this, both instructor credibility scores and best online instructional practices scores had to be split into a high and a low category. For purposes of splitting the instructor credibility scores, a score of 5, 6, or 7 from the 7-point Likert scale was deemed high. In essence, summary scores ranging from 30-42 were deemed to be high

instructor credibility scores. Scores ranging from 6-29 constituted low instructor credibility scores.

Similarly, the best online instructional practices scores had to be split into a high and low category. While the summary score totals could vary across each of the best online instructional practices because the number of sub-items differed, scores of 4 or 5 from the 5-point Likert scale were consistently deemed high. The high and low score breakdown for each of the best online instructional practices is shown in Table 10.

Table 10

Best Online Instructional Practices High and Low Score Breakdown

Best Online Instructional Practices	Low Scores	High Scores
Continuous involvement and feedback from faculty (immediacy/presence)	9-35	36-45
Draw from experiences and introduce students to cultures and subcultures to add relevance	8-31	32-40
Incorporate learning modules (targeted and logically placed)	7-27	28-35
Provide opportunities for collaborative learning	3-11	12-15
Encourage goal incorporation into the course	6-23	24-30
Encourage multiple approaches to solving problems	5-19	20-25

Once the 2x2 contingency table was complete, the Fisher's Exact Test was run to measure the association between best online instructional practices and instructor credibility and to test for statistical significance. The results of this test are shown in Table 11.

Table 11

Fisher's Exact Test Results and Statistical Significance of Instructor Credibility Crossed with Best Online Instructional Practices

Instructor Credibility Crossed with Best Online Instructional Practices	Fisher's Exact Test Two-sided Pr <= P	Statistical Significance P<.05
COMPETENCE		
Continuous involvement and feedback from faculty (immediacy/presence)	0.0025	Significant
Draw from experiences and introduce students to cultures and subcultures to add relevance	0.1083	Not Significant
Incorporate learning modules (targeted and logically placed)	0.0170	Significant
Provide opportunities for collaborative learning	0.1083	Not Significant
Encourage goal incorporation into the course	0.0611	Not Significant
Encourage multiple approaches to solving problems	0.0611	Not Significant
CARING		
Continuous involvement and feedback from faculty (immediacy/presence)	0.0000868	Significant
Draw from experiences and introduce students to cultures and subcultures to add relevance	0.0018	Significant
Incorporate learning modules (targeted and logically placed)	0.0118	Significant
Provide opportunities for collaborative learning	0.1092	Not Significant
Encourage goal incorporation into the course	0.0541	Not Significant
Encourage multiple approaches to solving problems	0.0541	Not Significant
TRUSTWORTHINESS		
Continuous involvement and feedback from faculty (immediacy/presence)	0.0204	Significant
Draw from experiences and introduce students to cultures and subcultures to add relevance	0.0412	Significant
Incorporate learning modules (targeted and logically placed)	0.0692	Not Significant
Provide opportunities for collaborative learning	0.0412	Significant
Encourage goal incorporation into the course	0.1588	Not Significant
Encourage multiple approaches to solving problems	0.1588	Not Significant

With respect to the credibility dimension of competence, two best online instructional practices proved to be statistically significant ($p<.05$), indicating a positive

relationship. These instructional practices included: *continuous involvement and feedback from faculty (immediacy/presence)* (Pr <=P, 0.0025) and *incorporate learning modules (targeted and logically placed)* (Pr <=P, 0.0170).

With respect to the credibility dimension of caring, three best online instructional practices proved to be statistically significant ($p<.05$), indicating a positive relationship. These instructional practices included: *continuous involvement and feedback from faculty (immediacy/presence)* (Pr <=P, 0.0000868), *draw from experiences and introduce students to cultures and subcultures to add relevance* (Pr <=P, 0.0018), and *incorporate learning modules (targeted and logically placed)* (Pr <=P, 0.0118).

With respect to the final credibility dimension of trustworthiness, three best online instructional practices proved to be statistically significant ($p<.05$), indicating a positive relationship. These instructional practices included: *continuous involvement and feedback from faculty (immediacy/presence)* (Pr <=P, 0.0204), *draw from experiences and introduce students to cultures and subcultures to add relevance* (Pr <=P, 0.0412), and *provide opportunities for collaborative learning* (Pr <=P, 0.0412).

The findings that resulted by crossing best online instructional practices summary scores with credibility summary scores, using the Fisher's Exact Test, were significant in 8 out of 18 cases (38 percent). Of those cases that were deemed statistically significant, the null hypothesis as related to RQ1 was rejected.

$H_{0:}$ Best online instructional practices do not influence student perceptions of instructor credibility on any of the three dimensions: competence, trustworthiness, and caring.

While 10 of the 18 cases remaining were not deemed statistically significant (<.05) in which the null hypothesis was retained, it should be noted that five of them were nearly significant per the Fisher's Exact Test. With respect to the credibility dimensions of competence and caring, *encourage goal incorporation into the course* and *encourage multiple approaches to solving problems* were nearly significant (Pr <=P, 0.0611). The same was true for the credibility dimension of trustworthiness where *incorporate learning modules (targeted and logically placed)* was nearly significant (Pr <=P, 0.0692). While this study will not focus specifically on the 5 nearly significant results, there is reason to believe that these particular best online instructional practices, like the four deemed statistically significant may in fact point to a positive relationship which influences student perceptions of instructor credibility.

In the chapter to follow, qualitative results from Phase Two of the study will be described that further support the significant findings from Phase One.

Summary

Phase One data, as received from 67 undergraduate survey participants, suggest that there is a positive relationship, in some cases, between best online instructional practices and student perceptions of instructor credibility on each of three dimensions: competence, trustworthiness, and caring. The cases that were deemed to be statistically significant per the Fisher's Exact Test are summarized in Table 12.

Table 12

Summary of Statistically Significant Best Online Instructional Practices Crossed with Credibility Dimensions

	Credibility Dimensions Statistically Significant per Fisher's Exact Test		
Best Online Instructional Practices	**Competence**	**Caring**	**Trustworthiness**
Continuous involvement and feedback from faculty (immediacy/presence)	X	X	X
Incorporate learning modules (targeted and logically placed)	X	X	
Draw from experiences and introduce students to cultures and subcultures to add relevance		X	X
Provide opportunities for collaborative learning			X

Overall, these findings directly address RQ1, as there is statistical evidence to suggest that there is a positive relationship between four of the six best online instructional practices and student perceptions of instructor credibility on at least one credibility dimension. The best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence)* was consistently linked to instructor credibility on all three credibility dimensions (competence, trustworthiness, and caring), whereas the instructional practices of *incorporate learning modules (targeted and logically placed)* and *draw from experiences and introduce students to cultures and subcultures to add relevance* are influential on two credibility dimensions (competence and caring, and caring and trustworthiness). Finally, the instructional practice of *provide opportunities for collaborative learning* is influential for only one credibility dimension (trustworthiness). The strength of each of these positive relationships will be addressed

in Chapter Five, along with the results of the in-depth follow-up interviews, both of which advance our understanding of the Phase One results.

Chapter Five: Results of the Interviews

Introduction

This study was conducted in roughly two phases. While the quantitative data obtained in Phase One confirmed that there was a statistically significant relationship between best online instructional practices and student perceptions of instructor credibility in eight out of 18 cases (38 percent), the qualitative data obtained in Phase Two advances our understanding of the Phase One results through triangulation. Specifically, the in-depth synchronous interviews that were conducted in Phase Two allowed the researcher to probe deeper to gain descriptive information from students regarding the best online instructional practices as an influencing factor in their perceptions of instructor credibility. As such, the purpose of this chapter is to describe the results of Phase Two to address RQ2: How do students describe the teaching practices of a credible online instructor?

Online Interview Recruitment and Response Rate

In the final section, Part IV, of the online student survey instrument, participants were given an opportunity to state whether they were willing to contribute further to the study through an in-depth follow-up interview. In the survey, students were informed that the follow-up interview would take roughly 30 minutes and would be hosted in an online synchronous chat room. For those participants who agreed to participate in the follow-up online interview, an e-mail address was requested such that they could be contacted to schedule the online meeting.

An invitation to participate in an online interview was sent via e-mail to 42 undergraduate students, representing those who agreed to participate in Part IV of the

online survey. An online Doodle poll was created to provide and track interview appointment dates and times. Periodic e-mail messages were sent as reminders to non-responsive participants to encourage full participation. As an incentive for voluntary participation and to increase response rates, students who participated in a follow-up interview were entered into a random prize drawing to win a gift card ranging from $10 to $50. Ultimately, 16 students (38 percent of those who originally volunteered) scheduled and completed an online synchronous interview over the course of a three-week time period.

Interview Participant Profile

The profile of the interview participants is shown in Table 13.

Table 13

Interview Participant Profile

Participant Identification Number (PID)	Age	Gender	Ethnicity/Race	Current Enrollment Status [Part-time = <12 credits per semester] [Full-time = ≥12 credits per semester]
PID - 1	35-39 years old	Female	Black	Part-time student
PID - 2	>45 years old	Male	White	Part-time student
PID - 3	25-29 years old	Female	White	Full-time student
PID - 4	>45 years old	Female	White	Full-time student
PID - 5	18-24 years old	Male	Black	Full-time student
PID - 6	>45 years old	Female	White	Full-time student
PID - 7	40-45 years old	Male	White	Full-time student
PID - 8	40-45 years old	Female	American Indian/Alaska Native	Part-time student
PID - 9	18-24 years old	Female	White	Full-time student
PID - 10	>45 years old	Female	White	Part-time student
PID - 11	30-34 years old	Male	White	Full-time student
PID - 12	30-34 years old	Female	Black	Full-time student
PID - 13	18-24 years old	Male	White	Full-time student
PID - 14	25-29 years old	Female	Black	Part-time student
PID - 15	35-39 years old	Male	White	Part-time student
PID - 16	30-34 years old	Female	White	Full-time student

The final interviewees consisted of 16 undergraduate students (10 females and 6 males). The age range of interviewees varied; however, adult students aged 25 years and

older accounted for 81 percent of the interview population. The ethnicity/race breakdown for interviewees was 69 percent White, 25 percent Black, and 6 percent American Indian/Alaska Native. The majority of the participants (63 percent) self-reported as being enrolled full-time, taking 12 credits or more per semester.

Fourteen of the 16 interview participants reported having experience in both fully online courses and in face-to-face courses; two students who noted that they had taken fewer than five face-to-face courses, which may mean that they had taken no face-to-face courses. With respect to the format of courses, 100 percent of the interview participants indicated that they had taken at least five fully online courses, while 88 percent indicated that they had taken five or more traditional face-to-face courses.

Overall, the interview participant profile was diverse across various demographic factors. This population, which consisted of adults (81 percent), minorities (31 percent), and female students (63 percent), was reflective of the demographics specifically addressed in the literature review as well as the student population at the research site overall.

Much like the 67 respondents to the broader survey, those 16 who were also interview participants scored the credibility dimension of trustworthiness highest, followed by competence and then caring (Table 14). Of the 16 interview participants, 11 (69 percent) indicated that the credible instructor whom they had in mind when completing the survey and when responding to the interview questions was a female.

Table 14

Credibility Summary Scores by Interview and Survey Participants

	Competence Summary Score (%)	Trustworthiness Summary Score (%)	Caring Summary Score (%)
Interview Participant Summary Scores (highest possible score 672)	620 (92.26%)	631 (93.90%)	584 (86.90%)
Survey Participant Summary Scores (highest possible score 2814)	2626 (93.32%)	2643 (93.92%)	2606 (92.61%)

When comparing Part II survey data for interview participants, the score of 42 was selected most often across all three credibility dimensions (Table 15).

Table 15

Interview Participants: Measure of Central Tendency for Credibility Summary Scores

Variable	Mean	Std Dev	Minimum	Maximum	Mode	N
Competence	38.75	4.77	26.00	42.00	42.00	16
Caring	36.50	6.40	22.00	42.00	42.00	16
Trustworthiness	39.44	3.81	30.00	42.00	42.00	16

As described in Chapter Four, online instructors who were perceived to be credible by study participants implemented each of the six best online instructional practices to some degree. When comparing the summary scores given of survey participants in Table 9 to the summary scores of interview participants in Table 16, the results were fairly consistent, with the best online instructional practice of providing *continuous involvement and feedback to students* rating highest at 90 percent, followed by *draw from experience and introduce students to cultures and subcultures to add relevance to the class* (88 percent). While there is variation in the third, fourth, fifth, and

sixth ratings between the survey participants overall and the interview participants, the percent difference is relatively small.

Table 16

Interview Participants: Best Online Instructional Practices Summary Scores

Best Online Instructional Practices	Interview Participants Summary Score (%)
Continuous involvement and feedback from faculty (immediacy/presence) (highest possible score = 720)	648 (90.00%)
Incorporate learning modules (targeted and logically placed) (highest possible score = 560)	484 (86.43%)
Draw from experiences and introduce students to cultures and subcultures to add relevance (highest possible score = 640)	566 (88.44%)
Encourage multiple approaches to solving problems (highest possible score = 400)	322 (80.50%)
Encourage goal incorporation into the course (highest possible score = 480)	383 (79.79%)
Provide opportunities for collaborative learning (highest possible score = 240)	210 (87.50%)

Interview Structure

For purposes of Phase Two data collection, interviews were conducted using a synchronous online format. Specifically, student volunteers were rostered into an online classroom embedded within the Learning Management System (LMS) already available at the research site. Once rostered into the online classroom, interview participants were able to gain access to the private chat feature to meet the researcher at a specified date and time during which the interview was conducted.

The format of each private, online interview was exactly the same for each participant; all used a semi-structured interview model. The researcher worked from a standard set of five questions, some with multiple parts. When necessary, the researcher

restated the question or probed for additional information until the question was fully addressed. At the conclusion of each online interview, the transcript was downloaded. To protect the students' identity when downloading the interview transcripts, all personal information was redacted and replaced with participant identification numbers (PIDs) and was stored electronically outside of the LMS.

Interview Analysis

Using the process described by Eliot (2011), the responses obtained from the online synchronous student interviews were qualitatively analyzed. In the first phase of a two-phased process, a coding template was created using Microsoft Excel. Once the template was finalized, individual worksheets were copied for each interview question such that responses from all 16 interview participants were captured for every question. While time-consuming, this first phase, mostly to organize the transcript data, made it possible to do a preliminary scan for each question to see if themes emerged. Initial codes were developed and recorded for each question in each worksheet. To establish reliability of the initial round of coding, a qualitative researcher was invited to review a small transcript sample to determine if similar coding would be established. All codes identified by the test researcher were essentially the same as those identified originally, with the exception of one that was later reconciled.

In order to narrow the interview data even further, a second coding phase was established. Much like the question-by-question Microsoft Excel worksheets developed in round one, the same concept was applied for round two, this time with codes refined until they were deemed to be mutually exclusive. Beneath each code in the individual spreadsheets, quoted interview responses were inserted, depending on which code they

related to. To test for researcher bias, the same qualitative researcher from Phase One coding was invited to again review a small transcript sample to determine if similar coding would be established. Once finalized, the transcript data with quoted interview responses were summarized for purposes of analysis.

The final coding that was established for the purpose of qualitative date analysis is shown in Table 17. This table also includes the coding definitions and frequency counts, which represent the number of times that a particular code was used. While not intentional, the established codes, when compared to the 38 best online instructional practices that are divided among six broader categories (Appendix D), closely aligned. As such, Table 17 also shows the link between the established codes and the related best online instructional practices. In only one instance, the established code (PER-CON) did not have an obvious link to one of the six best online instructional practices.

Table 17

Interview Codes Linked to Best Online Instructional Practices and Frequency Counts

Interview Code	Definition	Link to Best Online Instructional Practice	Frequency Counts
AVL	Instructor was available to students via a variety of formats that ranged from immediate interactions such as chat and phone to delayed interactions such as e-mail and conference posts	Continuous involvement and feedback from faculty (immediacy/presence)	22
BIO	Instructor provided a biography that included information related to his/her educational and professional credentials	Draw from experiences and introduce students to cultures and subcultures to add relevance	14
CLEX	Instructor provided clear expectations in an organized fashion regarding the course requirements, which included grading standards and time expected on tasks	Continuous involvement and feedback from faculty (immediacy/presence)	15
EXP	Instructor provided students with real-life examples based on professional experience that made connections to the course content	Draw from experiences and introduce students to cultures and subcultures to add relevance	20
FDBK	Instructor provided feedback to students regarding course assignments and/or graded work	Continuous involvement and feedback from faculty (immediacy/presence)	28
PER-CON	Instructor made a personal connection with students. For instance, instructor gave individual attention and support.	**No obvious link to one of the best online instructional practices**	16
SUPPL	Instructor used course supplements that were timely, relevant, and specific to the course content	Incorporate learning modules (targeted and logically placed)	13
QUAL	Instructor encouraged deeper level learning. For instance, instructor asked probing questions.	Encourage multiple approaches to solving problems	24
PEER	Instructor encouraged students to work with peers for purposes of assignments and gaining feedback	Provide opportunities for collaborative learning	14

Interview Results

The results of the interviews were highly consistent with the survey findings; in which statistical evidence suggest a significant and positive relationship between four of the six best online instructional practices and student perceptions of instructor credibility on at least one credibility dimension. For the purpose of describing the interview results, the four best online instructional practices that were deemed statistically significant using the Fisher's Exact Test will be the primary focus of the discussion to follow: *continuous involvement and feedback from faculty (immediacy/presence), incorporate learning modules (targeted and logically placed), draw from experiences and introduce students to cultures and subcultures to add relevance,* and *provide opportunities for collaborative learning.*

The four statistically significant best online instructional practices closely linked to the interview codes with the highest frequency counts from the interview responses. A summary of how the interview codes aligned with the four statistically significant best online instructional practices is provided below:

- **Continuous involvement and feedback from faculty (immediacy/presence)**
  - AVL = 22
  - CLEX = 15
  - FDBK = 28
  - Total Frequency Count = 65

- **Draw from experiences and introduce students to cultures and subcultures to add relevance**
  - BIO = 14
  - EXP = 20
  - Total Frequency Count = 34

- **Provide opportunities for collaborative learning**
  - PEER = 14
  - Total Frequency Count = 14

- **Incorporate learning modules (targeted and logically placed)**
  - SUPPL = 13
  - Total Frequency Count = 13

Given the similarities between the survey data results and the interview frequency count results, a Cramer's V post-test was conducted to further explore the "magnitude of the association" (Ott, 1993, p. 406) that exists between best online instructional practices and credibility. Given that Chi-Square testing assumptions were not met, the results of Cramer's V cannot be relied upon heavily, but they can provide some general insight regarding the strength of association, particularly for the four best online instructional practices that were statistically significant.

Enhancing the results already on hand, the Cramer's V test revealed the exact same ranking order that was identified in the Phase One survey results as well as in the Phase Two interview results (Table 18). Notably, the best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence)* consistently had the strongest association across all three credibility dimensions (competence = .52, caring = .57, and trustworthiness = .42).

Table 18

Cramer's V Results of Instructor Credibility Crossed with Best Online Instructional Practices

Instructor Credibility Crossed with Best Online Instructional Practices	Cramer's V
COMPETENCE	
Continuous involvement and feedback from faculty (immediacy/presence)	**.52**
Incorporate learning modules (targeted and logically placed)	**.36**
CARING	
Continuous involvement and feedback from faculty (immediacy/presence)	**.57**
Draw from experiences and introduce students to cultures and subcultures to add relevance	**.43**
Incorporate learning modules (targeted and logically placed)	**.33**
TRUSTWORTHINESS	
Continuous involvement and feedback from faculty (immediacy/presence)	**.42**
Draw from experiences and introduce students to cultures and subcultures to add relevance	**.34**
Provide opportunities for collaborative learning	**.34**

Continuous Involvement and Feedback (Immediacy/Presence)

With respect to the best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence)*, there was a statistically significant relationship with all three credibility dimensions (competence, caring, and trustworthiness). Furthermore, when comparing the Cramer's V rankings, the strength of association between the best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence)* was consistently the highest across all three credibility dimensions. Essentially, what this data suggest is that the best online instructional practice of *continuous involvement and feedback from faculty*

(immediacy/presence) rated highest on all accounts and is most meaningful in terms of student perceptions of instructor credibility.

The responses provided by the interview participants help to paint a clearer picture of the way in which online instructors demonstrate *continuous involvement and feedback from faculty (immediacy/presence)*. Referring to the frequency counts in Table 17, there are three codes that were linked to this best online instructional practice. For each of the three linked codes, a sample of the student responses is provided.

1) The code FDBK (*Instructor provided feedback to students regarding course assignments and/or graded work*) was used most frequently (28 times) when analyzing the responses; this linked to the best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence)*.

   Sample Responses:
   - PID 9: "my instructor was always willing to give us feedback on our assignments as we turned them in…..always offering immediate feedback when we needed it was something that influenced my perception of her credibility most. Its not something that you come across with every instructor you may have"
   - PID 11: "a high degree of teacher interaction lends, in my opinion, the most credibility"
   - PID 13: "the instructor gave me useful feedback on a paper through a dialogue with multiple exchanges, which gave me the opportunity to discover why the recommended advice was given"
   - PID 3: "Nobody's work was left untouched. He always made an effort to read through our work and comment further than a 'good job' or 'needs work. When he graded our assignments, he didn't just mark them right/wrong. He pointed out where our mistakes were." "In this instance being 'timely' was the most important factor because that allowed us plenty of time to work out our problems and correct things within our weekly assignments so as not to miss the turn-in deadlines"
   - PID 16: "the instructor had work graded and feedback attached to us in less than a week for the entire eight weeks, I never wondered what my grade was or if I should fix something before the final project was due…..an instructor that replies quickly with advice, to me, generally has their act together"

- PID 4: “on all projects, she provided exceptional feedback to each of us, giving us the good and the bad of each project and the whys….she provided us the ability to send her our work prior to handing it in for a grade. She would proof and give comments and critique it and would then send it back. This took a lot of time and effort on her part and if she hadn't cared, I believe she wouldn't have bothered”

2) The code AVL (*Instructor was available to students via a variety of formats that ranged from immediate interactions such as chat and phone to delayed interactions such as e-mail and conference posts*) was used second most (22 times) when analyzing the responses; this linked to the best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence).*

Sample Responses:

- PID 8: “She was very involved in the conferences…….she offered several contact methods in which to reach her if we were having problems. She was always available……it really felt like she was a part of the class”
- PID 9: “my instructor was always willing to set up a time to talk in the chat room or via private message/email to talk about our progress in the course or any concerns we might have had”
- PID 4: “she was available throughout the week and weekend for any and all questions……she was there each and every day for all of us without having any excuses”
- PID 10: “she made herself available 24/7, through email, online mail, etc. and got back to me very quickly. She was very active in conferences”

3) The code CLEX (*Instructor provided clear expectations in an organized fashion regarding the course requirements, which included grading standards and time expected on tasks*) was the final code used (15 times) when analyzing the responses; this also linked to the best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence).*

Sample Responses:

- PID 4: "the first thing she did was to define exactly what we were going to get accomplished….She was very definitive about the projects and the timeline. She also made it very clear before the class began how much time and effort she expected from each one of us"
- PID 15: "her ability to navigate the online class to make it easy to find what we needed to learn"
- PID 5: "provide/present information in a concise manner that doesn't require interpretation"
- PID 10: "be extremely prepared….the syllabus is ready before the first day of class; the modules are informative and creative; well thought out"

Draw from Experiences and Introduce Students to Cultures and Subcultures to Add Relevance

With respect to the best online instructional practice of *draw from experiences and introduce students to cultures and subcultures to add relevance*, there was a statistically significant relationship with two credibility dimensions (caring and trustworthiness). When comparing the Cramer's V rankings, the strength of association between the best online instructional practice of *draw from experiences and introduce students to cultures and subcultures to add relevance* and the credibility dimensions of caring (0.43) and trustworthiness (0.34) consistently ranked second.

Referring to the frequency counts in Table 17, there are two codes that were linked to this best online instructional practice of *draw from experiences and introduce students to cultures and subcultures to add relevance*. For each of the two linked codes, a sample of the student responses relating to this best online instructional practice is provided.

1) The code EXP (*Instructor provided students with real-life examples based on professional experience that made connections to the course content*) was used most frequently (20 times) when analyzing the responses that linked to

the best online instructional practice of *draw from experiences and introduce students to cultures and subcultures to add relevance*.

Sample Responses:

- PID 12: "she didn't just give us the concept and then refer us back to the book….she used her background experience and knowledge to apply the concepts that we were dealing with in the class. For example, we were talking about communication styles in the workplace and she gave an exact example of how this specific concept was used by her personally"
- PID 14: "she helped me think outside the box more as she provided examples of how concepts can be applied to everyday life….. She used her own examples of things she experienced in this field throughout our conference discussions"
- PID 1: "when the instructor would give her feedback, she always gave an example of situation that she had been in and how it related to what we were learning and how it could work in our career paths. The professor would often in her responses to a student to tell of one of her experiences communicating with a person of different culture. She would go into more detail about her own experiences and paint a better picture by which to explain the communication theory we were studying. Also, she was able to use that experience when answering some students questions - especially if there was a language gap"
- PID 2: "several of the communication theories we learned dealt with communicating with people from different cultures as meanings are sometimes unclear"
- PID 11: "she often spoke of her experience as a reporter and how she had dealt with the issues we were learning about. To me, the examples of what she had seen and heard over the years were poignant. I still remember the in-depth conversations the class had about the media and convergence - she understood the topic so well (having been a journalist) and she was able to convey the deep changes media was going through. I had never realized how significant the changes were prior to her lessons on them"

2) The code BIO (*Instructor provided a biography that included information related to his/her educational and professional credentials*) was used second most (14 times) when analyzing the responses that linked to the best online instructional practice of *draw from experiences and introduce students to cultures and subcultures to add relevance.*

Sample Responses:

- PID 15: "it was posted in the study groups, it was a short bio of the professor and it posted some of her credentials which helped me to see she was credible"
- PID 9: "my instructor provided video/voice lectures as an introduction post so that we were able to get to know her and how she became an instructor in the first place. She talked about her credentials…… it's extremely important for him/her to provide where they obtained their degree(s), where they've worked in the field in question, and how many years they've worked in said field"
- PID 13: "the instructor posted a bio that gave the student a sense of what experience they were bringing to the table…I just felt intuitively that the instructor was credible"

Incorporate Learning Modules (Targeted and Logically Placed)

With respect to the best online instructional practice of *incorporate learning modules (targeted and logically placed*, there was a statistically significant relationship with two credibility dimensions (competence and caring). The Cramer's V ranking related to the best online instructional practice of *incorporate learning modules (targeted and logically placed)* was the second highest for the credibility dimension of competence (0.36) and the third highest for the credibility dimension of caring (0.33).

Referring to the frequency counts in Table 17, there was one code that linked to the best online instructional practice of *incorporate learning modules (targeted and logically placed)*. Once again, a sample of the student responses relating to this best online instructional practice is provided.

1) The code SUPPL (*Instructor used course supplements that were timely, relevant, and specific to the course content*) was used 13 times when analyzing the responses; this linked to the best online instructional practice of *incorporate learning modules (targeted and logically placed).*

Sample Responses:

- PID 9: "she would provide us with helpful links, post lectures of her own instead of us just reading the book" "My perception of her credibility was really influenced by her video lectures with powerpoints each week. It allowed me to really learn the material and more about her teaching style that if we were in a traditional classroom"
- PID 11: "she provided links to outside sources (YouTube, news articles, etc.) that were highly relevant to the current topic"
- PID 15: "some reading content was given by the instructor which had study questions after it….the reading materials with questions were located in the reserved reading link which made sense"
- PID 14: "she definitely encouraged us to use outside sources-scholarly articles only vs online sources"
- PID 1: "providing their students with sources that are reputable in the field of study"
- PID 7: "he had us looking at different examples of design. For example, we had to go and buy four magazines so that we could emulate the design for a magazine layout project"

Provide Opportunities for Collaborative Learning

With respect to the best online instructional practice of *provide opportunities for collaborative learning*, there was a statistically significant relationship with only one credibility dimensions (trustworthiness). When comparing the Cramer's V rankings, the strength of association between the best online instructional practice of *provide opportunities for collaborative learning* rated the second highest for the credibility dimension of trustworthiness (0.34), which was a tie rating with *draw from experiences and introduce students to cultures and subcultures to add relevance*.

Referring to the frequency counts in Table 17, there was one code that directly linked to the best online instructional practice of *provide opportunities for collaborative learning*. A sample of the student responses relating to this best online instructional practice is provided.

1) The code PEER (*Instructor encouraged students to work with peers for purposes of assignments and gaining feedback*) was used most (14 times)

when analyzing the responses; this linked to the best online instructional practice of *provide opportunities for collaborative learning*.

Sample Responses:

- PID 4: "she created study groups that allowed us to meet offline and work together for a specific project. Being online allowed us to group with others throughout the world and that gave us more diversity in the project"
- PID 1: "she encouraged us to reach out to other students that may have experience in the given field to see how they would solve problems"
- PID 11: "she was familiar with the subject matter (because her questions always pushed the student to think deeper about the topic) and that she was genuinely interested in ensuring we would take as much as we could from the course"
- PID 8: "she did continually work on getting us to respond to each other in order to keep a continuing dialogue on the readings for the week. She very much encouraged us to respond to as many classmates as we could so that we could gain other perspectives on whichever subject we were covering that week"
- PID 14: "she encouraged peer-to-peer interaction though the group project assignments…….encouraged use of the chat room feature and other forms of communication to work with our group. This showed the importance of working together in a team through communication"

While the frequency counts can provide some general information regarding the number of times that a code was used, suggesting instances of possible consensus among the interview participants, the content of the responses is more important to assess. In the samples provided in this section, it just so happens that the frequency counts are relatively high; however, that is not what makes the findings significant for the purposes of this study. The quality of the responses, received firsthand from interview participants, speaks volumes and enhances our understanding of the ways in which online instructors demonstrate best online instructional practices.

With that said, there were two interview codes (QUAL and PER-CON) that were not directly linked to one of the four best online instructional practices that were deemed statistically significant with respect to instructor credibility based on the Fisher's Exact

Test. However, given the high frequency with which the interview participants' responses were categorized into one of these codes, they should not be ignored, as the results may be worthy of a closer examination.

First, the code QUAL (*Instructor encouraged deeper level learning. For instance, instructor asked probing questions*), which is linked to the best online instructional practice of *encourage multiple approaches to solving problems*, was used 24 times. In fact, this code was used second most of all nine codes identified and was nearly significant according to the Fisher's Exact Test. While the frequency count should be used cautiously, it must be taken into consideration. In this instance, even a small sampling of student responses within the QUAL coding reveal that students, at least to some degree, associate the quality of instruction with instructor credibility. Despite the fact that this best online instructional practice was not deemed statistically significant when crossed with instructor credibility, it certainly seems to be area that deserves future attention especially since it was nearly significant.

Sample Responses:

- PID 11: "she asked us to think about questions that were much deeper than just surface level thinking. This showed she had spent a great deal of time evaluating previous and current events and recognizing what was quality material to use in the classroom……..she was highly involved in commenting on students thoughts. This promoted an excellent level of interaction….her consistent, thoughtful, and challenging conference interactions lended her the most credibility"
- PID 8: "she asked us questions in response to our answers to the current discussion, inviting more discussion and making us really think about what we were studying…..she made us think and work for our grades"
- PID 9: "she was willing to go that extra mile to help us out and make sure that we were understanding the material, especially since it's an online experience and things can get miscommunicated easily sometimes…….the instructor was actively interested in us learning the correct material, not just the course description….Specifically, she went above and beyond more than twice during the semester"
- PID 11: "she had a very high standard for posting responses and then

responding to other students……she was familiar with the subject matter (because her questions always pushed the student to think deeper about the topic) and that she was genuinely interested in ensuring we would take as much as we could from the course"

- PID 15: "the instructor posted questions that really made you think about what we were learning"
- PID 1: "not always giving the answers to questions or situations but making the students research and learn"

Second, the code of PER-CON (*Instructor made a personal connection with students. For instance, instructor gave individual attention and support*), which did not have an obvious link to any of the best online instructional practices, was used 16 times. Again, the frequency count is not the relevant factor, but the quality of the responses given by the interview participants is. Reflected in the small sampling below, it appears that students appreciate responses that are personal and directed, which supports McCroskey and Wheeless's (1976) credibility study, as cited in Thweatt and McCroskey (1998), that indicates that the more an instructor incorporates behaviors that are affinity-based (a positive attitude toward another person), the more credible they will be perceived to be by their students. Given that the PER-CON code did not have an obvious link to a best online instructional practice, this may be a category worth examining further, especially considering the possible implications for perceived instructor credibility.

Sample Responses:

- PID 2: "I think its responding to each student as if that student was the teachers only student. When I feel that I am getting 'individual' attention that tells me that the teacher cares about my progress. She answered all students with some positive response, and the response actually related to the student posting"
- PID 2: "the responses were consistent in they were personal and addressed to individuals…. in her responses, she would sometimes relate a story about her family or a personal experience but in a way that 'connected'"
- PID 6: [referring to feedback, the instructor incorporated] "his personal

humor”

- PID 16: “responding to the student with an answer that shows that they understand you and offering the appropriate advice”

Summary

Phase Two data, gathered from 16 student interviews, were highly consistent with the Phase One survey results, in which statistical evidence suggests a positive relationship between four of the six best online instructional practices and student perceptions of instructor credibility on at least one credibility dimension. Further, the interview results suggest that there was a great deal of agreement across participants, which is, in part, revealed through the limited number of codes (emerging themes) and the relatively high frequency counts shown in Table 17.

Overall, these findings directly address RQ2, as we now have a clearer picture of how students describe the teaching practices of a credible online instructor. In summary, based on the interview responses, students described the same four best online instructional practices that were deemed statistically significant using the Fisher’s Exact Test: *continuous involvement and feedback from faculty (immediacy/presence), Incorporate learning modules (targeted and logically placed), draw from experiences and introduce students to cultures and subcultures to add relevance,* and *provide opportunities for collaborative learning.* In describing these particular teaching practices, it was also discovered that the best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence)* has the strongest association, based on the Cramer’s V test, across all three credibility dimensions (competence, caring, and trustworthiness). In this instance, students consistently referenced instructional practices that included: FDBK (*Instructor provided feedback to*

students regarding course assignments and/or graded work), AVL (*Instructor was available to students via a variety of formats that ranged from immediate interactions such as chat and phone to delayed interactions such as e-mail and conference posts*), and CLEX (*Instructor provided clear expectations in an organized fashion regarding the course requirements, which included grading standards and time expected on tasks*).

While not a focus of the interview results, there were two interview codes (QUAL and PER-CON) that were not directly linked to one of the four best online instructional practices that were deemed statistically significant with respect to instructor credibility based on the Fisher's Exact Test. However, given the high frequency with which the interview participants provided responses directly related to one of these codes, there may be a need for additional investigation since students, at least to some degree, appear to associate the quality of instruction and having a personal connection with their instructor with instructor credibility.

CHAPTER SIX: CONCLUSION

In the final chapter, a brief recap of the study is offered, followed by the key findings to address each of the two research study questions. Additionally, both the theoretical and practical implications are discussed, as well as the limitations of the study. In conclusion, recommendations are made to describe additional areas of research that may warrant further consideration if we are to broaden our understanding of instructor credibility, specifically as it relates to the online classroom.

Recap

The purpose of this study was to explore the relationship between best online instructional practices and undergraduate student perceptions of instructor credibility as defined on three dimensions: competence, caring, and trustworthiness. Emphasis was placed on the six best online instructional practices that McCollum and Abdul-Hamid (2011) determined to be associated with student success (higher pass rates and lower withdrawal rates):

- Continuous involvement and feedback from faculty (immediacy/presence)
- Incorporate learning modules (targeted and logically placed)
- Draw from experiences and introduce students to cultures and subcultures to add relevance
- Encourage multiple approaches to solving problems
- Encourage goal incorporation into the course
- Provide opportunities for collaborative learning

The study employed a mixed-methods research approach that was carried out in roughly two phases at a large, four-year, public, open university on the East coast. The first phase relied on an online survey instrument in which 67 responses were collected from undergraduate students who were enrolled in multiple sections of a fully online upper-level course from within the communication field of study. The second phase

relied on synchronous online interviewing in which 16 survey volunteers responded to in-depth questions regarding instructor credibility and best online instructional practices.

Key Findings

This study addressed two primary research questions:

RQ1. Which best online instructional practices do students identify as influencing their perception of instructor credibility as defined on three dimensions: competence, trustworthiness, and caring?

The overall findings with respect to RQ1 provide statistical evidence suggesting a significant and positive relationship between four of the six best online instructional practices and student perceptions of instructor credibility on at least one credibility dimension. The best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence)* consistently linked to instructor credibility on all three credibility dimensions (competence, caring, and trustworthiness), whereas the instructional practices of *incorporate learning modules (targeted and logically placed)* and *draw from experiences and introduce students to cultures and subcultures to add relevance* linked to two credibility dimensions (competence and caring, and caring and trustworthiness), respectively. Finally, the instructional practice of *provide opportunities for collaborative learning* linked to only one credibility dimension (trustworthiness).

Notably, the survey findings which were focused specifically on best online instructional practices parallel with the literature pertaining to those best practices in the traditional face-to-face setting. In this light, the two bodies of research (online vs. traditional) validate each other. Take for instance, Chickering and Gamson's (1987), *Seven Principles of Good Practice in Undergraduate Education*, in comparison to the findings of this study in which there were four best online instructional practices deemed

to have a positive and significant relationship with student perceptions of instructor credibility. In all four instances of significant best online instructional practices, there appears to be a direct connection to one or more of Chickering and Gamson's (1987) principles.

Seven Principles for Good Practice in Undergraduate Education (Chickering and Gamson, 1987)	**Best Online Instructional Practices (McCollum and Abdul-Hamid, 2011)**
Encourages contacts between students and faculty	Continuous involvement and feedback from faculty (immediacy/presence)
Develops reciprocity and cooperation among students	Provide opportunities for collaborative learning
Uses active learning techniques	Draw from experiences and introduce students to cultures and subcultures to add relevance
Gives prompt feedback	Continuous involvement and feedback from faculty (immediacy/presence)
Emphasizes time on task	Incorporate learning modules (targeted and logically placed)
Communicates high expectations	Continuous involvement and feedback from faculty (immediacy/presence)
Respects diverse talents and ways of learning	Draw from experiences and introduce students to cultures and subcultures to add relevance

While there were two remaining best online instructional practices (*encourage goal incorporation into the course* and *encourage multiple approaches to solving problems)* that did not have a statistically significant relationship with student perceptions of instructor credibility, they were nearly significant per the Fisher's Exact Test and appear to also validate the traditional based literature of Chickering and Gamson (1987). In this respect, there is reason to believe that these particular best online instructional practices may warrant future consideration.

RQ2. How do students describe the teaching practices of a credible online instructor?

Highly consistent with RQ1 findings, the results of RQ2 showed that when students were asked to describe the teaching practices of a credible online instructor, they consistently described the same four best online instructional practices that were deemed statistically significant using the Fisher's Exact Test: *continuous involvement and feedback from faculty (immediacy/presence), incorporate learning modules (targeted and logically placed), draw from experiences and introduce students to cultures and subcultures to add relevance*, and *provide opportunities for collaborative learning.*

The best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence)* received the highest total frequency count with respect to interview coding (Table 17), was statistically significant across all three credibility dimensions (Table 11), and also received the strongest measure of association across all three credibility dimensions per Cramer's V test (Table 18). Essentially, what these data suggest is that the best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence)* rated highest on all accounts and is most meaningful in terms of student perceptions of instructor credibility.

In the descriptions of the best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence)*, students consistently referenced instructional practices that included: FDBK (*Instructor provided feedback to students regarding course assignments and/or graded work*), AVL (*Instructor was available to students via a variety of formats that ranged from immediate interactions such as chat and phone to delayed interactions such as e-mail and conference posts*), and

CLEX (*Instructor provided clear expectations in an organized fashion regarding the course requirements, which included grading standards and time expected on tasks*).

Implications (Theoretical and Practical)

The potential value of this study is two-fold in that there are both theoretical and practical implications. From a theoretical perspective, this study fills a significant gap in the existing literature. Past research on instructor credibility has predominantly been situated in traditional classrooms on traditional college campuses and therefore included traditional-aged students, generally ranging in age from 18-24. Given current demographic trends that include a growing population of adult, minority, and female students, this study incorporated the perceptions of a population that is much more diverse. Specifically, the population of this study (67 undergraduate students) consisted of adults aged 25 or older (82 percent), minorities (47 percent), and female students (70 percent) enrolled at a large, four-year, public, open university that focuses primarily on distance education.

Next, there is a substantial history of research that points to positive associations between instructor credibility and student outcomes in the traditional classroom, but literature situated in the distance education setting has not been available. Therefore, this study can serve as a launch pad, providing brand-new data specific to instructor credibility in the distance education setting upon which additional research can be based.

Last, given the significant relationship between the best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence)* and all three dimensions of credibility (competence, caring, and trustworthiness), an emerging theory exists. In this light, the theory suggests that high levels of instructor involvement

and feedback in the online classroom will have a positive influence on undergraduate student perceptions of instructor credibility across all three dimensions (competence, caring, and trustworthiness).

From a practical standpoint, this study has implications for policymakers, administrators, and educators. The results of this study indicate that there are four best online instructional practices (Table 12) that have a significant and positive relationship with student perceptions of instructor credibility. Furthermore, the data show positive associations between instructors who use the four statistically significant best online instructional practices and their students who are reported to have higher pass rates and lower withdrawal rates (McCollum & Abdul-Hamid, 2011). That being the case, college officials such as course design experts, whose work involves the design and/or implementation of instructional practices for use in the online classroom, may want to consider emphasizing the four best online instructional practices found to be statistically significant in this study. Further, instructors may turn to the results of this study to gain insight into which best online instructional practices can influence student perceptions of credibility. For instance, considering the best online instructional practice of *draw from experiences and introduce students to cultures and subcultures to add relevance,* interview participants referenced the importance of viewing the instructor's biography so that they could assess the instructor's educational and professional credentials. Also, in this example, students referenced the importance of instructors using real-life examples in the online classroom to help make connections to the course content.

Limitations of the Study

There were several limitations of this study. With respect to Phase One, this study did not incorporate a means to assess the characteristics of the student participants prior to administering the online survey instrument. For instance, there was no specific measure in which access had been granted to identify a student's educational history, including, but not limited to, grade point average or past college experience, all of which could have had an impact the student perceptions of credibility sought in this study. Furthermore, there was no way to assess the demographics of the student participants prior to administering the online survey instrument, so the sample was based on availability. Last, while 453 students were invited to participate in the online survey, the response rate that remained for analysis was not ideal (15 percent). Had the response rate been greater, it is possible that a more widely accepted statistical measure, like Chi-Square testing, could have been used rather than the conservative alternative used in this study, Fisher's Exact Test.

With respect to Phase Two of the study, in which online interviews were conducted, several limitations existed. First, when using an online format to conduct interviews, there is a lack of visual and physical cues that could have been gained in a face-to-face format. In a traditional face-to-face interview, for instance, the researcher and the participant are able to build on visual cues to assess the situation. In the online setting, however, there is no physical connection outside of the text appearing on the computer screen.

The second limitation with respect to the Phase Two design was that interviews were conducted in a synchronous format. Given the diversity of the sample population, it

turned out that students were physically located around the globe, in different time zones. The fact that the interviews were conducted in a synchronous format may have been a deterring factor, limiting the response rate, as being restricted to a set interview time may not have been feasible for all student volunteers. Even for those volunteers who followed through, the synchronous factor made it challenging to coordinate a particular meeting time at which to conduct the online interview. In some cases, there was miscommunication regarding time zone differences, so there was confusion over scheduled appointment times. Fortunately, these complications were resolved and interviews were rescheduled, but this did require additional time and coordination.

Overall, one of the primary limitations of the study had to do with the sample. Given that the literature pertaining to credibility was predominately based in the communication studies field, this study sought to replicate that by only including student participants who were enrolled in communication studies courses. This factor did limit the sample size overall and in fact may have narrowed the findings.

Future Directions

In light of the sample size limitations and response rate limitations, replicating this study for sake of expanding the design overall may be worthwhile. To deal with the truncated correlations that may exist, one may consider using a larger sample that extends beyond students enrolled in communication studies courses. For instance, how would this study play out if the sample were from disciplines such as business or information technology?

Another consideration with respect to the design of the study involves the survey. In this study students were asked to think of the most credible instructor they had taken a

fully online course with in the past year. This specificity (asking about a credible instructor only), may have been the reason that the cell data was skewed preventing the use of Chi Square testing. Had the survey included or even compared student responses to instructors not deemed credible, the use of Chi Square testing may have been possible. Furthermore, an expanded study that is inclusive of student perceptions of both credible and non-credible instructors may provide for some telling comparisons with respect to the use of best online instructional practices.

Next, while a number of demographic factors such as student gender, ethnicity/race, and age were obtained from survey participants, for the purposes of offering a clear respondent profile, this study did not address variations in responses as a direct result of demographics. Future studies involving online instructor credibility or best online instructional practices could focus on specific demographics to gain additional insight. For instance, researchers may want to assess whether student perceptions of instructor credibility in the online setting vary by student gender, by student ethnicity/race, and/or by student age. This study only touched slightly on these demographic factors.

Another factor that may be worthy of additional investigation—because this is a new area of research—is instructor demographics. While this study included some basic references to instructor gender, it did not go into the kind of detail that may be important to understand in the future. Similarly, it might be important to assess instructor ethnicity/race to see if student perceptions of credibility vary in the online classroom.

Finally, given the four best online instructional practices that were deemed statistically significant in relation to student perceptions of instructor credibility, it might

be useful to take the study to the next level by focusing on student outcomes and/or retention.

Conclusion

Given the steady increases in online enrollments across post-secondary institutions in the U.S. over the past decade alone, this study is, in some respect, overdue. While, the overall findings of this study provide some insight into the relationship between best online instructional practices and student perceptions of instructor credibility, there still remain a number of important research opportunities in this domain yet to explore. For now, the data from this study provides a foundation for which future research can build upon.

In summary, this study addressed two research questions. The first question, which was addressed primarily by means of an online student survey instrument, led to significant findings. Using the Fisher's Exact Test to analyze the results of the online student survey, findings suggest that there is a significant and positive relationship between four of the six best online instructional practices as defined in the BOIPS and student perceptions of instructor credibility on at least one credibility dimension. The four best online instructional practices that appeared to significantly influence student perceptions of instructor credibility included:

- There was a positive relationship between *continuous involvement and feedback from faculty (immediacy/presence)* and instructor credibility on three dimensions: (competence, caring, and trustworthiness).

- There was a positive relationship between *incorporate learning modules (targeted and logically placed)* and instructor credibility on two dimensions: (competence and caring).
- There was a positive relationship between *draw from experiences and introduce students to cultures and subcultures to add relevance* and instructor credibility on two dimensions: (caring and trustworthiness).
- There was a positive relationship between *provide opportunities for collaborative learning* and instructor credibility on one dimension: (trustworthiness).

While student perceptions of instructor credibility may vary from one dimension to the next (competence, caring, and trustworthiness), studies show that instructors who are deemed most credible by students are those who score high across all three dimensions (McCroskey, 1998). As such, the findings of this study as related to the best online instructional practice of *continuous involvement and feedback from faculty (immediacy/presence)* is significant with respect to the literature as it consistently influenced student perceptions of instructor credibility on all three credibility dimensions (competence, caring, and trustworthiness).

The second research question, which was addressed by way of conducting 16 online synchronous interviews, provided confirmatory evidence to support the survey findings. Using a multi-phased qualitative coding process to analyze the interview transcripts, the results showed that when students were asked to describe the teaching practices of a credible online instructor, they consistently described the same four best online instructional practices that were deemed statistically significant using the Fisher's

Exact Test: *continuous involvement and feedback from faculty (immediacy/presence), incorporate learning modules (targeted and logically placed), draw from experiences and introduce students to cultures and subcultures to add relevance,* and *provide opportunities for collaborative learning.*

Despite some of the limitations of this study, including a lower than anticipated response rate, there is reason to believe that the overall findings are significant and should not be dismissed. First, it should be noted that the 67 survey respondents upon which the primary data was collected were diverse across various demographic factors consisting of adults (82 percent), minorities (47 percent), and female students (70 percent). This is important to the integrity of this study in the sense that the student population upon which the findings rest is highly reflective of the student population addressed in the literature review as well as the student population of the research site which consists mostly of adults (average age of 32), minority (44 percent), and females (53 percent).

Second, while this study did rely on conservative statistical measures such as the Fisher's Exact Test, and the Cramer's V Test, the findings were strengthened by the fact that the data was triangulated. Given that the study employed a mixed-methods design in which data was gathered via multiple sources (quantitative survey and qualitative interviews) there is strength in the final interpretation (Mertens, 2005).

As distance education enrollments continue to grow or even plateau, as predicted in the literature, it will be all the more essential for educators and administrators to further their understanding of best online instructional frameworks, through this and future studies, to best support the needs of diverse student populations such as those

described in this study: adult, minority, and female students. At minimum, the findings of this study should not go overlooked given that, “the higher the credibility, the higher the learning” (Thweatt & McCroskey, 1998).

APPENDIX A

Informed Consent

Sponsor: University of Maryland College Park (UMCP) - Graduate School - Department of Education Policy Studies

Project Title: THE RELATIONSHIP BETWEEN BEST ONLINE INSTRUCTIONAL PRACTICES AND UNDERGRADUATE STUDENT PERCEPTIONS OF INSTRUCTOR CREDIBIILTY AT A LARGE, FOUR-YEAR, PUBLIC, OPEN UNIVERSITY

Purpose of the Study: This research is being conducted by [Amanda M. Knapp] at the University of Maryland, College Park. We are inviting you to participate in this research project because you are enrolled in a fully online upper level course from within the communication field of study. The purpose of this research project is to explore undergraduate student perceptions of instructor credibility as defined on three dimensions: competence, caring, and trustworthiness.

Procedures: This study will employ a mixed-methods approach in roughly two phases: The first phase of this study will rely on an online student survey instrument. The online student survey instrument will include a combination of forced response and optional comment items. The online student survey will take roughly 15 minutes to complete.

Should you volunteer to participate in the second phase of the study an online interview will be conducted using a chat room format. The online interview will take roughly 30 minutes to complete. If you agree to partake in the phase two follow-up interview, an email address will be requested at the end of this survey such that you can be contacted to schedule the online meeting. As an incentive for voluntary participation and completion of the phase two online interview you will be entered into a random prize drawing to receive a gift card of your choice.

Potential Risks and Benefits: This research involves no anticipated risk to you. We hope that, in the future, other people might benefit from this study through improved understanding of student perceptions of instructor credibility as influenced by best online instructional practices.

Confidentiality: Any potential loss of confidentiality will be minimized by storing data from student surveys and interviews to a password protected flash drive in which data will be coded in a manner that no personal identifiers are used. At the conclusion of the study, any print copies of data from the online surveys and interviews will be shredded and any pseudonym keys will be deleted from the password protected flash drive.

If a report or article is written about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of

the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.

Right to Withdraw and Questions:
Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator:

Principle Investigator: Amanda M. Knapp, aknapp@umbc.edu, 410-322-3863
Faculty Advisor: Dennis Herschbach, Ph.D., drhersch@umd.edu, 301-405-4542

Participant Rights: If you have questions about your rights as a research participant or wish to report a concern, please contact:

University of Maryland College Park
Institutional Review Board Office
1204 Marie Mount Hall
College Park, Maryland, 20742
E-mail: irb@umd.edu
Telephone: 301-405-0678

This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.

Statement of Consent

Statement of Consent *By checking the box below, you are indicating that you are at least 18 years of age; you have read this consent or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this consent form at the conclusion of the survey. If you agree to participate, please check the box below

☐ YES - By checking this box I agree that I have read the consent information provided and am aware of my rights and am voluntarily participating in this research study.

APPENDIX B

Survey

Demographic Information

What is your Age? *Please select one answer below.

- 18-24 years old
- 25-29 years old
- 30-34 years old
- 35-39 years old
- 40-45 years old
- >45 years old

What is your Gender? *Please select one answer below.

- Female
- Male

What is your Ethnicity/Race? *Please select one answer below.

- White
- Black
- American Indian/Alaska Native
- Hispanic/Latino
- Asian
- Other

How many U.S. college courses have you taken in a fully online format? *Please select one answer below.

- <5 fully online courses
- 5-10 fully online courses
- 11-15 fully online courses
- 16-20 fully online courses
- >20 fully online courses

How many U.S. college courses have you taken in a traditional face-to face format? *Please select one answer below.

- <5 traditional face-to-face courses
- 5-10 traditional face-to-face courses
- 11-15 traditional face-to-face courses
- 16-20 traditional face-to-face courses
- >20 traditional face-to-face courses

What is your current enrollment status at the college you are attending? *Please select one answer below.

- Full-time student (taking 12 credits or more per semester)
- Part-time student (taking fewer than 12 credits per semester)

Instructor Credibility Defined

Instructor credibility has been defined as the degree to which students perceive their instructor to be: [Competent] - the degree to which an instructor is perceived to be qualified, authoritative, intelligent and an expert in a given subject area. [Trustworthy] - the degree to which an instructor is perceived to be honest and of good character. [Caring] - the degree to which an instructor is perceived as understanding, empathetic and responsive.

Instructor Credibility - Definition *

- By checking this box I agree that I have read and understand the definition of Instructor Credibility above.

Identifying a Credible Online Instructor

Given the definition of instructor credibility, think of the single most credible instructor that you have taken a [fully online] course with in the [past year]. Once you have a credible online instructor in mind, please answer the following questions. Please keep the [same] credible instructor in mind for every question to follow.

Is the credible online instructor that you have in mind a female or a male? *

- The credible online instructor that I have in mind is a [Female].
- The credible online instructor that I have in mind is a [Male].

Did the credible instructor that you have in mind teach in a fully online course when you were in his/her class? *

☐ YES - the credible instructor that I have in mind taught in a [fully online course] when I was in his/her class.

☐ NO - the credible instructor that I have in mind did not teach in a [fully online course] when I was in his/her class.

Did the credible instructor that you have in mind teach in a fully online course that you were in within the past year? *

☐ YES - the credible instructor that I have in mind taught in a fully online course that I took [within the past year].

☐ NO - the credible instructor that I have in mind did not teach in a fully online course that I took [within the past year].

Instructor Credibility Measure

Instructions: In the section to follow please select the button closest to the word/phrase that most accurately describes your impression of the credible online instructor that you have in mind. The button closest to the word/phrase reflects the strongest feelings. Please keep the [same] credible instructor in mind for every question to follow.

Instructor Credibility Measure (CO) [Intelligent - Unintelligent] *

	1	2	3	4	5	6	7	
Intelligent	○	○	○	○	○	○	○	Unintelligent

Instructor Credibility Measure (CO) [Untrained - Trained] *

	1	2	3	4	5	6	7	
Untrained	○	○	○	○	○	○	○	Trained

Instructor Credibility Measure (CO) [Inexpert - Expert] *

	1	2	3	4	5	6	7	
Inexpert	○	○	○	○	○	○	○	Expert

Instructor Credibility Measure (CO) [Informed - Uninformed] *

	1	2	3	4	5	6	7	
Informed	○	○	○	○	○	○	○	Uninformed

Instructor Credibility Measure (CO) [Incompetent - Competent] *

	1	2	3	4	5	6	7	
Incompetent	○	○	○	○	○	○	○	Competent

Instructor Credibility Measure (CO) [Bright - Stupid] *

	1	2	3	4	5	6	7	
Bright	○	○	○	○	○	○	○	Stupid

Instructor Credibility Measure (CA) [Cares about me - Doesn't Care about me] *

	1	2	3	4	5	6	7	
Cares about me	○	○	○	○	○	○	○	Doesn't care about me

Instructor Credibility Measure (CA) [Has my best interest at heart - Doesn't have my best interest at heart] *

	1	2	3	4	5	6	7	
Has my best interests at heart	○	○	○	○	○	○	○	Doesn't have my best interests at heart

Instructor Credibility Measure (CA) [Self centered - Not self centered] *

	1	2	3	4	5	6	7	
Self-centered	○	○	○	○	○	○	○	Not self-centered

Instructor Credibility Measure (CA) [Concerned with me - Not concerned with me] *

	1	2	3	4	5	6	7	
Concerned with me	○	○	○	○	○	○	○	Not concerned with me

Instructor Credibility Measure (CA) [Insensitive - Sensitive] *

	1	2	3	4	5	6	7	
Insensitive	○	○	○	○	○	○	○	Sensitive

Instructor Credibility Measure (CA) [Not understanding - Understanding] *

	1	2	3	4	5	6	7	
Not understanding	○	○	○	○	○	○	○	Understanding

Instructor Credibility Measure (TR) [Honest - Dishonest] *

	1	2	3	4	5	6	7	
Honest	○	○	○	○	○	○	○	Dishonest

Instructor Credibility Measure (TR) [Untrustworthy - Trustworthy] *

	1	2	3	4	5	6	7	
Untrustworthy	○	○	○	○	○	○	○	Trustworthy

Instructor Credibility Measure (TR) [Honorable - Dishonorable] *

	1	2	3	4	5	6	7	
Honorable	○	○	○	○	○	○	○	Dishonorable

Instructor Credibility Measure (TR) [Moral - Immoral] *

	1	2	3	4	5	6	7	
Moral	○	○	○	○	○	○	○	Immoral

Instructor Credibility Measure (TR) [Unethical - Ethical] *

	1	2	3	4	5	6	7	
Unethical	○	○	○	○	○	○	○	Ethical

Instructor Credibility Measure (TR) [Phony - Genuine] *

	1	2	3	4	5	6	7	
Phony	○	○	○	○	○	○	○	Genuine

Online Instructional Practices Survey

Instructions: Choose the button closest to the phrase that most accurately describes your agreement or disagreement with the statement provided. The button closest to the phrase reflects the strongest feelings. When answering all questions to follow please keep the [same] credible instructor in mind from the previous survey sections.

My online instructor made sure that the course syllabus was complete, accurate, and that it clearly stated the course objectives.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor clarified the course objectives further by discussion or other means and made sure that students were fully aware of them.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor provided students with a detailed timeline which identified steps toward meeting course objectives.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor ensured that each objective of the course was repeatedly presented through various applications and exercises.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor made course competencies observable, measurable, and achievable.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor provided sufficient time on tasks for each student.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor provided continuous feedback on student performance.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor offered feedback that identified errors, their causes, and ways to correct the errors.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor advised students in need of remedial work and provided ways to get the needed help.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor encouraged students to use tools and skills that enhanced their learning and were timesaving.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor incorporated the use of learning modules and objects.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor presented information in other multimedia forms such as video and audio clips, blogs, or online journals.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor required students to use technological and web based tools (e.g., online journals, blogs).*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor incorporated other instructional materials found on the World Wide Web into my course.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor informally assessed students at the beginning and throughout the course and used this information to immediately develop and refine instruction.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor assessed student learning in a variety of formats (e.g. test, quizzes, papers) at established times over the course of the semester.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor introduced himself/herself effectively at the beginning of each semester.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor made students aware of course resources, including his/her own expertise.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor exposed students to different applications of the course subject matter.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor encouraged students to draw on their experiences on the job or in other non-course activities to assist in learning.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor introduced students to a variety of cultures or subcultures.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor encouraged students to question and monitor the credentials of alleged authorities in the field.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor encouraged students to question assumptions made by others or by themselves.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor posed learning tasks in terms of solving problems as well as in terms of accumulating knowledge.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor adapted challenges and provided support to students based on differences in their prior knowledge and skill levels.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor encouraged students to try more than one approach to solve complex problems.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor checked students' inferences for validity and encouraged the students themselves and their peers to do so as well.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor arranged for students to conduct well-designed research and case analyses.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor used role-play simulations or other activities to supplement lecture and discussion in learning.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor encouraged students to incorporate their own goals into the work of the course.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor learned of students' difficulties relevant to the course and used this information in developing instruction.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor elicited students' analyses of what worked and did not work in their problem-solving experiences.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor made students aware of the characteristics of highly effective learners.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor encouraged students to evaluate their personal efforts relative to becoming skillful learners.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor encouraged students to think about the effectiveness of their own thinking.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor provided students with opportunities to work together in small groups or pairs, share results, and give feedback to each other.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor provided ongoing opportunities for students to develop social rapport amongst themselves and with the instructor.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

My online instructor encouraged or required students to participate in class discussions and provided them with clear guidelines for acceptable contributions.*

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Volunteer Request - Random Prize Drawing

Will you volunteer? *For a chance to be entered into a random prize drawing to win a $10 or $50 gift card are you willing to participate in an online "interview" with the researcher to provide more specific information relevant to the study? This interview will take place in an online chat room and will be approximately 30 minutes in length. Your participation in the interview is not related to your course(s) and will have no impact on the completion of your degree program. The researcher will not use your name, your student identification information, or any other specific information to identify you.

○ YES - I am willing to participate in a follow-up interview and would like to be entered into a random prize drawing.

○ NO - I am not willing to participate in a follow-up interview.

Volunteer for a follow-up interview If you answered "yes," please provide an email address at which the researcher can contact you to schedule the online interview and to notify you if you are a winner in the prize drawing upon completion of the study.

Please [SUBMIT] Your Responses! Thank You!

Once your responses have been successfully submitted, you will receive a confirmation. If you do not receive the confirmation after hitting the submit button then your survey responses are not complete. In this case, please carefully review the survey to identify any incomplete questions (highlighted in red). Once all questions are fully answered you can hit the submit button.

APPENDIX C

Interview Questions

1) Please provide a specific example of something that your instructor did in the online classroom that **first** made you believe that he/she was credible?

2) Based on your survey summary, it appears that [1 of 6 Best Online Instructional Practices] had the greatest influence on your perception of your online instructor's credibility.

    a. Please describe at least two specific things/teaching practices that your instructor did in the online classroom to demonstrate that he/she offered [1 of 6 Best Online Instructional Practices].

    b. Which one of these things/teaching practices do you think influenced your perception of your online instructor's credibility most?

    c. Why?

3) Based on your survey summary, you rated [1 of 6 Best Online Instructional Practices] as the second most influential factor with respect to your perception of instructor credibility.

    a. Please describe at least two specific things/teaching practices that your instructor did in the online classroom to demonstrate that he/she [1 of 6 Best Online Instructional Practices].

    b. Which one of these things/teaching practices do you think influenced your perception of your online instructor's credibility most?

    c. Why?

4) If you refer to your survey summary and look at the credibility section to the far right, you will see that you rated the instructor that you had in mind as follows:

    a. Competence – %
    b. Caring – %
    c. Trustworthiness – %

d. Are there any specific things/teaching practices that your instructor did not do that would have increased your ratings of his/her credibility?

e. Of the three dimensions (Competence/Caring/Trustworthiness) which one do you feel is the most important for an instructor to demonstrate in an online classroom?

f. Why?

g. How did your instructor demonstrate (Competence/Caring/Trustworthiness) in your online classroom?

5) Last question - In your opinion, what is the single most important thing/teaching practice that an instructor should do in an online classroom to demonstrate to students that he/she is credible?

APPENDIX D

Best Online Instructional Practices Inventory

(McCollum & Abdul-Hamid, 2011)

Continuous involvement and feedback from faculty (immediacy/presence)
1. I make sure that the course syllabus is complete, accurate, and clearly state the course objectives.
2. I clarify the course objectives further by discussion or other means and make sure that students are fully aware of them.
3. I provide students with a detailed timeline which identify steps toward meeting course objectives.
4. I ensure that each objective of the course is repeatedly presented through various applications and exercises.
5. I make course competencies observable, measurable, and achievable.
6. I provide sufficient time on tasks for each student.
7. I provide continuous feedback on student performance.
8. My feedback not only identifies errors, their causes, and ways to correct the errors.
9. I advise students in need of remedial work of ways to get the needed help.
Incorporate learning modules (targeted and logically placed)
10. I encourage students to use tools and skills that enhance their learning and are timesaving.
11. I incorporate the use of learning modules and objects in my class
12. I present information in other multimedia forms such as video and audio clips, blogs, or online journals
13. I require students to use technological and web based tools (e.g., online journals, blogs) in my class.
14. I incorporate other instructional materials found on the World Wide Web into my course (including websites).
15. I informally assess student at the beginning and throughout the course and use this information to immediately develop and refine instruction.
16. I assess student learning in a variety of formats (e.g., test, quizzes, papers) at established times over the course of the semester.
Draw from experience and introduce students to cultures and subcultures to add relevance
17. I try to introduce myself effectively to my students at the beginning of each semester.
18. I make students aware of course resources, including my own expertise.
19. I expose students to different applications of the course subject matter.
20. I encourage students to draw on their experiences on the job or in other non-course activities to assist in learning.
21. I introduce students to a variety of cultures or subcultures.

22. I encourage students to question and monitor the credentials of alleged authorities in the field.
23. I encourage students to question assumptions made by others or by themselves.
24. I pose learning tasks in terms of solving problems as well as in terms of accumulating knowledge.
Encourage multiple approaches to solving problems
25. I adapt challenges and provide supports to students based on differences in their prior knowledge and skill levels.
26. I encourage students to try more than one approach to solving complex problems.
27. I check students' inferences for validity and encourage the students themselves and their peers to do so as well.
28. I arrange for students to conduct well-designed research and case analyses.
29. I use role-play simulations, or other activities to supplement lecture and discussion in learning.
Encourage goal incorporation into the course
30. I encourage students to incorporate their own goals into the work of the course.
31. I learn of students' difficulties relevant to the course and use this information in developing instruction.
32. I elicit student analysis of what worked and did not work in their problem-solving experiences.
33. I make students aware of the characteristics of highly effective learners (ones that will also help them in this class).
34. I encourage students to evaluate their personal efforts relative to becoming skillful learners.
35. I encourage students to think about the effectiveness of their own thinking.
Provide opportunities for collaborative learning
36. I provide students with opportunities to work together in small groups or pairs, share results, and give feedback to each other
37. I provide ongoing opportunities so that students can develop social rapport amongst themselves and with me.
38. I encourage or require students to participate in class discussions and provide them with clear guidelines for acceptable contributions.

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