

**SOCIAL PRESENCE DIFFERENCE BETWEEN CHINESE AND AMERICAN
STUDENTS IN TEXT-BASED ONLINE LEARNING ENVIRONMENTS**

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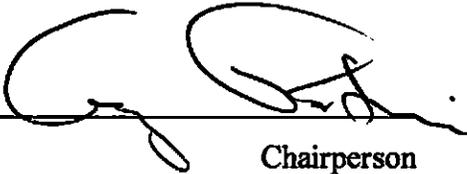
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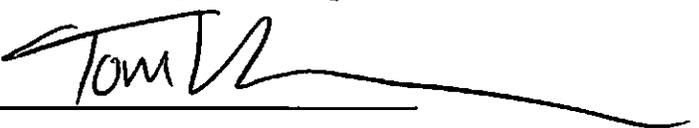
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Abstract:

The purpose of this study was to exam if Chinese students perceive different levels of social presence than their American student counterparts in a text-based online learning environment and, if so, what cultural differences are associated with different levels of social presence. A survey was conducted to collect data on social presence from both Chinese and American students. Additional open-ended questions were asked to gain more insight into the perceptions of online classes both from Chinese and American students. The results suggest that Chinese students perceived lower level of social presence than American students. They also suggest that expected response time, expectation of building relationships, learning background and English language ability may effect the Chinese students' perception of the online learning environment. The study recommends that online instructors take cultural issues into consideration to help Chinese students acclimate to the online learning environment. The suggestion is made that students need to be prepared for the obstacles that they may face that environment.

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1.Introduction

With Internet technologies becoming readily available and accessible, more and more colleges and universities are now able to offer online courses and programs. Online learning can liberate students constrained by geographical, temporal, and economic factors. It allows students greater freedom to choose what they learn and when to learn. Online learning has some unique advantages and provides learning opportunities for lifelong learners. The flexibility of online learning is of great value to many mature adults trying to balance work, family and study requirements. Taking online courses, many learners get the advantages of international courses and the opportunity to work and share with study mates across the world (Bartolic & Bates, 2000). With the advantage of flexibility and convenience, online courses are often popular with students. A 2005 survey of online learning with over 4491 colleges and universities in the United States, conducted by the Alfred P. Sloan Foundation (Allen & Seaman, 2006), shows that more than nearly 3.2 million students were taking at least one online course during the fall 2005 term, a substantial increase over the 2.3 million reported the previous year and the more than 800,000 additional online students is more than twice the number added in any previous year.

Chinese international students enroll in online classes for their benefit as well as for academic requirements and they may perceive the CMC (computer-mediated communication) learning environment differently and experience different level of social presence. Short and Christie define social presence as a quality of the medium itself and the communication for which medium is used (Short & Christie, 1976). They regarded social presence as the most important perception that occurs in an environment and stated

that it is fundamental to person-to-person communication. Gunawardena (1997) argues that social presence is necessary to improve effective instruction in traditional and technology-based classrooms and states that it is a significant predictor of learners' satisfaction. Hample and Dallinger (1995) point out that a lack of social presence may lead to a high level of frustration, a critical attitude toward the instructor's effectiveness and a lower level of affective learning. According to Tu (2002), social presence is a significant factor in distance learning.

Characteristics of the medium and the user's perception determine the degree of social presence (Tu, 2001). And it may differ from different cultures' perspectives. Chinese students were reared in a culture with higher context and higher power distance and are accustomed to using more context cues to communicate with others. However, in the electronic learning environment, most the traditional communication cues are lacking. Therefore, they may perceive social presence differently. For instance, Chinese students are accustomed to receiving information either from the physical context or the internalized concept of a person. In text-based online learning environment, however, the social context cues are diminished. Then, how do Chinese international students perceive an online learning environment compared to American students, specifically when they are taking classes from American professors and work with their American co-learners? This thesis will examine how American students and Chinese international students' perceive social presence in a text-based online learning environment.

2. The online learning environment

2.1 The concept of online learning

What is online learning? Allen and Seaman (2005) found that the typical description of online courses includes two types: hybrid or blended courses and full online courses. In hybrid or blended courses, the course blends online and face-to-face delivery. Substantial proportions of the content are delivered online. Instructors typically use online discussions, and these courses typically have some face-to-face meetings. In full online courses, most or all of the content is delivered online, and there is typically no face-to-face meeting (Allen & Seaman, 2005). Online learning, unlike traditional courses that require students show up in the classroom on time, allows more flexibility.

Online technologies in a distance education setting can be classified as synchronous or asynchronous systems. In synchronous systems, such as chat rooms, learners participate in same time-different place classrooms connected by interactive computer programs. In asynchronous courses, students are involved in different time-different places activities in which participants typically access a web site when it is appropriate or convenient to do so and only for as long as it remains so (Fontaine, 2002).

2.2 The online learning environment and Chinese international students in U.S.

Online courses attract learners with advantages such as flexibility and convenience (Liyan, Ernise, Janette & Myung, 2004). With Internet technologies increasingly becoming available and accessible, online programs are now widely offered from different universities. Online learning can liberate students constrained by geographical, temporal, and economic factors. It allows students greater freedom to choose what they learn and when to learn. With the advantage of flexibility and

convenience, online courses are often popular with students (Song, Singleton, Hill & Koh, 2004). A survey of online learning with over 4,000 colleges and universities in the U.S, conducted by the Alfred P. Sloan Foundation found that in fall 2005 an additional 850,000 students took at least one online course, increasing the online student population to 3.2 million—a 35 percent increase in enrollment in a year (Allen & Seaman, 2006). Since 2002, the number of online learners has doubled. Online students now are estimated to represent around 17 percent of all postsecondary education students. This report also shows that in the year of 2005, an increasing number of chief academic officers (59 percent) agreed that “online education is critical to the long-term strategy of my institution.” Seventy-three percent of chief academic officers agreed that online education reaches students not served by face-to-face programs, and more than 60 percent indicated that learning outcomes in online education were either equal to or better than those in face-to-face learning.

According to the Institute of International Education (IIE), in 2004/05, the number of international students enrolled in U.S. higher education institutions remained fairly steady at 565,039. In 2004/05 China mainland had sent 62,523 students to U.S and the number of Chinese students from Taiwan ranked #6 with 25,914. Because of different cultural backgrounds, international students and also online learners may perceive online social presence differently. Some studies have been done to gain insight into the different learning styles between American students and Chinese students in a traditional classroom and the Chinese international students’ learning challenges. There also are a few studies exploring the Chinese students’ attitude about online learning and how they perceive social presence online. But no study had been done to compare the

differences between American students and Chinese international students in terms of how they perceive social presence online. The purpose of this study is to compare the difference of social presence from the perspective of Chinese international students and American students in terms of their online course experiences.

3. Some related concepts and competing theory

3.1 Reality and Presence

Schloerb (1995) defined *presence* as follows: physical presence designates “the existence of an object in some particular region of space and time” (p. 68). According to Schloerb, physical presence supports subject presence, consisting of the perception of being located in the same physical space in which a certain event occurs, a certain process takes place, or a certain person stands (Slater & Steed, 1994). However, subjective presence is a necessary but not sufficient condition of presence and as such, is placed among the criteria of verification next to “objective” criteria. Schloerb (1995) believed that “at the heart of the theory is the idea that presence involves objective interaction” (p.65).

Mantovani and Riva (1995) challenged the presence defined by Schloerb and claimed that the meaning of presence was closely linked to the concept of reality and different ontological positions generate different definitions of presence, Telepresence and virtual presence. They proposed to reject the basic assumption of the ingenuous realism, the idea that “real” objects exist outside people’s minds and the idea that “virtual” objects exist only in people’s heads. As to the relationship between reality and presence, they claim that “ ‘reality’ is not out there in the world, somewhere ‘outside’ people’s minds, escaping social negotiation and cultural mediation; reality is co-constructed in the relationship between actors and their environments through the medium of the artifacts”

(p.541). Since there is no “real” world as opposed to an artificial one, they believe that “physical” presence in an environment is no more “real” or truer than Telepresence (Mantovani & Riva, 2003).

3.2 A sense of presence in media studies

With the advent and improvement of immersive displays, computing and network technologies, and interactive computer graphics, it is more possible than ever that the accurate reproductions and simulations of reality can be created. Therefore, the concept of presence has become currency. Since the early 1990’s a growing community of multidisciplinary researchers has turned its attention to presence, looking at what causes it, how the experience may be measured, and what effects it has on the media user (Riva, David & IJsselsteijn, 2003, p. 5). As Slater (2002) described presence as the “sense of being there” and “Presence is not simply a ‘sense of being there’ that might be assessed in a questionnaire, however long, complex and validated the questionnaire - it is the total response (*italics in the original*) to being in a place, and to being in a place with other people. The ‘sense of being there’ is just one of many signs of presence- and to use it as a definition or a starting point is a category error: somewhat like defining humor in terms of a smile” (p. 7). Slater and his colleagues (1998) employed two general categories variables to determine a users’ presence: media characteristics and users characteristics. According to Slater and his colleagues, characteristics of the medium can be subdivided into media form and media content variables. Riva and his colleagues (2003) further suggested that sense of presence as a product of the individual’s mind. As a presence experience, is highly likely to vary significantly across individuals, based on differences in perceptual-motor abilities, mental states, traits, needs, preferences, experience, etc.

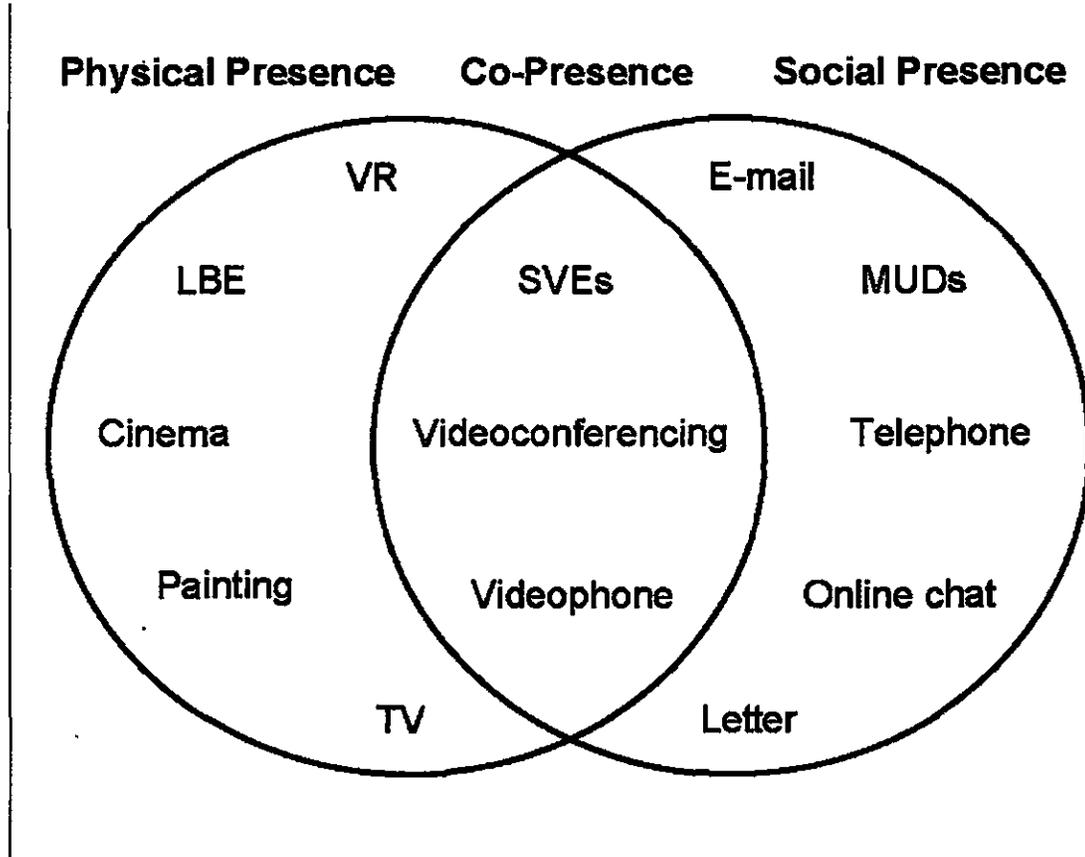
Steuer (1992) suggests that the degree of presence in a communication medium is related to two factors, vividness of the environment and of the interactivity, the degree to which users may influence the form or content of the mediated environment. Similarly, Heeter (1992) suggests that the vividness of the environment is a crucial factor in immersive environment where communication involves a variety of sensory stimuli. Interactivity includes social presence, or the degree to which the environment contains people who are interacting.

Lombard and Ditton (1997) reviewed a body of relevant literature and found six interrelated but distinct conceptualizations of presence: presence as social richness, presence as realism, presence as transportation, presence as immersion, presence as social actor within medium and presence as medium as social actor, and presence as social actor that is the medium. Based on Lombard and Ditton's (1997) literature review and categorization, Riva and IJsselsteijn (2003) summarized these conceptualizations into two broad categories: physical and social presence. According to Riva and IJsselsteijn (2003), "physical presence refers to the sense of being physically located in mediated space whereas social presence refers to the feeling of being together" (Riva, Davide & IJsselsteijn, 2003, p. 7). In other words, physical presence refers to the presence of "where I am and how real is this medium to me" and social presence refers to the presence of "how close I am with others through this medium."

Riva and IJsselsteijn (2003) believe that although there are some common determinants, such as the immediacy of the interaction, that are relevant to both physical presence and social presence, they still should be meaningfully distinguished and "it is of considerable practical importance to keep the differences between these categories in

sight as well”(p. 8). The most important and obvious difference of these two categories is the “communication” element. Communication is central to social presence but unnecessary to establish a sense of physical presence. For instance, by using applications such as email or telephone that only can provide minimal physical representation, one can “communicate” with others and experience a certain amount of social presence. On the other hand, some media, such as movies, can provide a high degree of physical presence but cannot transmit reciprocal communicative signals at all. The present study dealt only with the social presence characteristic of media. Beside physical presence and social presence, Riva and IJsselsteijn (2003) also point out the third presence “co-presence”. It is defined as the intersection between physical presence and social presence: the sense of being together in a shared space (Riva & IJsselsteijn, 2003, p. 10). By using some applications such as videoconferencing or Virtual Reality, one can experiences both physical and social presence. In other words, “co-presence” is the mix of physical and social presence. It is believed that as technology increasingly conveys physical presence, such as gaze direction or posture, social presence will increase too (Riva & IJsselsteijn, 2003, p. 9). A graphical illustration of the relationship between physical presence, social presence and co-presence, with various media examples is presented in Figure 1 in next page. Comparison of physical presence and social presence defined by Riva and IJsselsteijn is presented in Table 1 in next page.

Figure 1. Physical presence and Social Presence.



Adapted from: Riva and IJsselsteijn, 2003

Abbreviations: VR = Virtual Reality; LBE =Location-Based Entertainment; SVEs = Shared Virtual Environments; MUDs = Multi-User Dungeons .

Table 1. Physical Presence and Social Presence comparison

| | Physical presence | Social presence |
|-------------------------|--|--|
| Definition | The sense of being physically located in mediated space | The sense of being together, of social interaction with a virtual or remotely located communication partner. |
| The question it answers | How real is this medium to you? | How close do you feel with others through this medium? |
| Measurement | Realness and vividness How do you perceive the realness of this medium? | Closeness. How do you perceive this medium in terms of interacting/ communicating with others? |

3.3 Media Richness theory and Social Presence theory

Daft and Lengel's (1984,1986) media richness theory suggests that communication media differ in their ability to facilitate understanding. Media richness is a concept that originated in the management literature with information processing theory and developed for traditional modalities and later extended to incorporate CMC modalities. According to them, media vary in their ability to carrying information and communication channels differ in the extent to which they (1) overcome situational constraints, (2) convey ambiguous information, and (3) provide symbolic cues (Daft, Lengel & Trevino, 1987). They also argue that the richness of media is based upon a blend of four criteria: (1) feedback: instant feedback allows questions to be asked and corrections to be made, (2) multiple cues: including voice inflection, body gestures, words, numbers, graphic symbols, etc., (3) language variety: the range of meaning that can be conveyed with language symbols, and (4) personal focus, a message conveyed when personal feelings and emotions infuse the communication. The ranking is intended to portray the relative capacity of media to facilitate shared meaning (Daft, Lengel & Trevino, 1987)

It is clear that media richness is measured less subjectively by examining a medium's "capacity for immediate feedback, the number of cues and senses involved, personalization, and language variety" (Rice, 1992, p. 476). Irani and Kelleher's (Irani & Kelleher, 1997) table (Table 2) below illustrates a clear pattern in how media vary in richness. According to Table 2 the richest medium is face to face where cue carrying capacity is deemed to be technically unrestricted.

Table 2. Comparison the richness of Different Media.

| | Lengel (1983) | Trevino et al. (1988) | Daft et al (1987) | Trevino et al (1990) | D'Ambra & Rice (1994) |
|---------|------------------|-----------------------|-----------------------------|---------------------------------|-----------------------|
| Richest | Face-to-face | Face-to-face | Face-to-face | Face-to-face | Face-to-face |
| | Telephone | Telephone | Telephone | Telephone | Telephone |
| | Written personal | Email | Written addressed documents | Email, letter | Voicemail , email |
| | Written formal | Written | | Note, memo | Business memo |
| Leanest | Numeric, formal | | Unaddressed documents | Special report, flier, bulletin | |

Adapted from Kelleher, T (2007): Public Relations Online, p 62.

When focusing on online communication, the primary factors affecting media richness would be multiplicity of cues and immediacy of feedback (Rita, 2005).

Multiplicity of information cues refers to the number of ways in which information could be communicated (Daft & Lengel, 1986). Besides text, information cues should include nonverbal body language. Immediacy of feedback refers to the availability of instant feedback. It is noteworthy that with the new technology available, online communication has transformed from text-based to become multimedia. Therefore, the hierarchical order provided in the earlier studies need to be updated to accommodated the growing capacity of newer online technologies.

Short, Williams, and Christie (1976) define social presence “as a quality of the medium itself”, and “ it varies between different media, it affects the nature of the interaction and it interacts with the purpose of the interaction to influence the medium chosen by the individual who wishes to communicate ” (p. 65). Comparing to medium

richness theory, sense of presence is measured more subjectively by a set of semantic differentials measuring “personal ness”, “warmth” and “sociableness” etc. of the medium. In other words, it is measured by how users “feel” about the medium in terms of using it as a communication tool. The social presence ranking depends on the interaction of the medium and the task at hand and is based on the subjective judgment of the users. The summary of measurement comparison of medium richness theory and social presence theory is presented as table 3 below.

Table 3. Comparison of medium richness theory and social presence theory.

| | Medium richness theory | Social presence theory |
|-------------------|--|---|
| Influence Factors | Objectively: examine the medium’s capacity Affected by multiplicity of cues and immediacy of feedback | Subjectively: based on the judgment of the users Affected by media characteristics and users characteristics |
| Measurement | Four criteria: 1) Feedback: 2) Multiple cues: the number of senses involved, 3) Personalization: personal feelings and emotions that infused in the communication 4) Language variety: the range of meaning that can be conveyed with language symbols | Using a series of bipolar, seven-point semantic differential items including 1) Impersonal-personal, 2) Unsociable-sociable, 3) Insensitive-sensitive, 4) Cold- warm. |

4. The theoretical framework for this research

4.1 Social presence

4.1.1 Social presence theory

The phenomenon of social presence was initially described in face-to-face, video, audio, and speakerphone encounters (Short, et.al, 1976). However, there is not a clear definition of social presence for CMC in the literature (Walther and Burgoon, 1992, Walther, 1992, 1995). This research reviewed the social presence theory proposed by Short et.al (1976) and Tu (2002).

Short, Williams, and Christie (1976) regarded social presence as the most important perception that occurs in an environment and stated it is fundamental to person-to-person communication. They believe that “the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationship is an important hypothetical construct that can usefully be applied more generally” (p. 65). Their definition of social presence is “a quality of the medium itself” and “the communication for which medium is used” (p. 65). They claim that social presence varies between different media and it affects the nature of the interaction. The capacity of the medium to transmit information about facial expression, direction of gaze, posture, dress, and nonverbal cues all contribute to the degrees of social presence of a communication medium. According to Short et al. (1976), the social presence is not conceived as an objective quality of the medium but as a subjective quality of the medium. In other words, social presence is about how users perceive the medium, user’s “mental set” towards the medium. This definition is very close to Riva’s social presence, which refers to the “feeling of being together” (Riva, Davide & IJsselsteijn, 2003, p. 7). The summary

of differences and the commonalities of social presence definition by Short, et. al and Riva, et. al. is presented as table 4 below:

Table 4. Comparison of Social Presence defined by Short et al and Riva, et.al

| | Definition | Measurement | The question it answers |
|---|--|---|---|
| Social presence defined by Short, et.al | A perceptual or attitudinal dimension of the user, a “mental set” towards the medium. It depends on medium’s objective quality but it is subjective quality of medium. | Measuring user’s perception of the medium. Include immediacy and intimacy. Using a series of bipolar, seven-point semantic differential items | How users feel about the medium itself. |
| Social presence defined by Riva, et.al | The feeling of being together, of social interaction with a virtual or remotely located communication partner. | No measurement | How close the users feel about their communication with their partners through the medium |

| Commonality | |
|---|---|
| Social presence defined by Short, et al | Both focus on “communication” function of media; Both defined as a subjective quality of medium- how users “feel”. |
| Social presence defined by Riva, et al | |

Social presence is a construct that comprises a number of dimensions relating to the degree of interpersonal contact. Short, et al. (1976) point to two concepts particularly related to social psychology: Argyle and Dean’s (1965) concept of intimacy, and Wiener

and Mehrabian's (1968) concept of immediacy (cited in Short, Williams & Christie, 1976).

Intimacy is a function of eye contact, proximity, topic of conversation, etc. Argyle and Dean (1965) suggest that approach-avoidance theory can predict how people change their behavior to reach equilibrium. Using equilibrium theory, Short et al. (1976) went on to explain how human beings alter their behaviors to maintain an optimum level of intimacy. For example, if personal topics are to be discussed, people tend to avoid eye contact so their physical separation will be increased and the optimum level of intimacy will be maintained. Short, et al. (1976) suggested, "the social presence of the communications medium should be included in the list of factors contributing to the intimacy" (p. 72). The levels of intimacy that people adopt are derived from their culture's norms (Argyle & Cook, 1976).

Immediacy is related to social presence in a different way. Wiener and Mehrabian (1968) conceptualized it as a measure of the psychological distance, which a communicator puts between himself and the object of his communication, his addressee or his communication. According to Wiener and Mehrabian, negative affect, low evaluation and non-preference for any of those things are associated with non-immediacy in communication. Immediacy was only applied to understand the speech originally; other theorists (e.g., Heilbronn & Libby, 1973) have gone further and suggested that immediacy or non-immediacy can also be conveyed by which medium of communication is used. They suggest that the more information a medium can transmit, the greater the immediacy. Thus, comparing telephone or even interactive television, the use of face-to-face communication implies greater immediacy. Short, et al. (1976) differentiated this

kind of immediacy as technological immediacy, from “social immediacy”. Technological immediacy is achieved when the maximum amount of information is conveyed, but social immediacy is conveyed through speech and associated non-verbal cues. In other words, social immediacy can be altered by the users, but technological immediacy is an inherent characteristic of a media itself. The link between teacher immediacy and affective learning has been empirically supported in traditional face-to-face classrooms (Kearney, Plax, and Wendt-Wasco, 1985). In the distance education context, Hankman and Walker’s (1990) study supports that “teacher immediacy” has a positive relationship with a student’s satisfaction and learning in an interactive television classroom.

Tu (2002) points out that there is a positive relationship between social presence and interaction in the classroom. Social presence may be “cultured” among participants (Johansen, Vallee & Spangler, 1988). Gunawardena (1997) concludes in his study that students’ perceptions of the social and human qualities of online communication will depend on the social presence created by the instructors/moderators and the online community. Eastmond (1993) also noted that characteristics are often associated with online communication are not inherent within the medium but can result based on design, moderator roles, participant patterns and involvement.

Gunawardena (1997) examined fifty students from five universities, studying the relationship between their social presence and satisfaction in a computer conference. He reported that social presence was a strong predictor of satisfaction in a computer conference. He also suggests that a skilled instructor’s interaction techniques would impact the student’s perception of social presence. Therefore, these skills should be developed.

Short, et al. (1976) postulated that the critical factor in communication medium is social presence. Based on Short and his colleagues' theory, Tu (2002) proposes to define social presence for online settings as "a measurement of the feeling of community that a learner experience in an online environment" (p. 131).

4.1.2 Measuring social presence

According to Short, et al. (1976), the social presence is not conceived as an objective quality of the medium but as a subjective quality of the medium. Characteristics of the medium and user's perception determine the degree of social presence (Tu, 2001). Social presence is the internal image the perceiver evokes of the medium. Individual discern different degrees of social presence in different media. The chief method for measuring social presence in research has been the semantic differential technique (Osgood, Suci and Tannenbaum, 1957, as cited in Short, Williams, and Christie 1976). Short, et al. (1975) measured the social presence factor using bi-polar scales such as unsociable-sociable, insensitive-sensitive, cold-warm and impersonal-personal. A medium having a high degree of social presence is judged as being warm, personal, sensitive and sociable. Based on such a bi-polar rating, Gunawardena and Zittle (1997) employed six paired items that measured the social aspect of the CMC medium to serve as an argument for the social presence measure constructed for his study. They also designed a scale to measure social presence in the CMC context. This scale consists of fourteen questionnaire items that embodied the concept of "immediacy."

Tu (1999) points out that social presence is a complicated variable. He believes that communication style, computer literacy skills, language skills, paralanguage skills have a great influence on the level of social presence and argued that current social

presence instruments were not able to capture a thorough perception of social presence (Tu, 2002). Tu (2000) also describes three dimensions of social presence: social context, online communication, and interactivity. In his study of how Chinese students perceive social presence in online learning environments, each dimension was discussed as following.

4.1.3 Three dimensions of social presence in the online environment

Tu (2000) developed three dimensions of social presence in an online learning environment as (1) social context, (2) online communication, and (3) interactivity. He claims, “whether one examines CMC (computer-mediated communication) as a learning environment or is applying students learning and socio-cultural learning to the online environment, social presence must be examined while considering the three dimensions of social presence: social context, online communication, and interactivity” (p .34).

According to Tu (2000), *social context* is constructed from the online user’s characteristics and their perception of the online environment. Walther (1992) proposed that different social processes, setting, and purpose are component of social context and affect social presence. Tu (2000) went on to explain that social context should consist of task orientation, privacy, topics, recipients/social relationship and social process. Tu (2002) found that there are five variables that loaded on the social context factor: CMC as 1) a social form, 2) an informal and causal way to communicate, 3) a personal communication form, 4) a sensitive means, and 5) comfortable with familiar persons. *Online communication* consists of the attributes of the language used online and the application of online language (Tu, 2000). In the online learning environment, learners are required to have a certain level of computer literacy so they can communicate with

others efficiently. Users who are unable to type, read and write well will experience anxiety and frustration. Therefore, students should be trained to be familiar and comfortable with text-based communication before they enter online courses. Gunawardena (1997) concludes in his study that “participants who felt a higher sense of social presence within the conference enhanced their socio-emotional experience by using emoticons to express missing nonverbal cues in written form” (p. 23). Tu (2001) points out that language competence should also be included in *online communication*. In his study, Tu (2001) found that Chinese students spent more time online messaging than the native English-speaking students because they took a great deal of time to translate a statement from Chinese to English and subjected to the rules of English grammar before it is posted online. When text-based communication is required, Chinese students who do not perceive that they are competent with English reading and writing will experience communication anxiety and therefore, decrease their social presence. Tu (2002) found that online communication should include five variables: CMC conveys feelings and emotions, and the language used in CMC is stimulating, expressive, meaningful and easily understood.

Interactivity, as Tu (2000) pointed out, includes the activities in which online users engage and the communication styles they use. The potential for feedback from another person contributes to their degree of salience in the interaction. Immediate response is a component of interactivity. In online asynchronous learning environment, participants’ response occurs at a different time. When an immediate response is expected, but not received, a feeling of low interactivity is created, thus decreasing the level of social presence (Tu, 2001). In Tu’s (2001) study about Chinese students’ perception of social

presence in online environment, he found the negative feelings are spawned when the response time exceeds expected limits; therefore, the level of social presence is greatly diminished. In his study, he found that interactivity consists of four variables: CMC as pleasant, immediate, responsive and comfortable when dealing with familiar topics.

4.1.4 Research on social presence in learning environments

Tu (2001) concludes that social presence is an important key to understand interpersonal relationship in distance education. Walther and Burgoon (1992) point out that when social presence increases, the interpersonal relationship among users will also increase.

Studies have also found a positive relationship between users' sense of social presence and their learning effectiveness, interpersonal relationship and satisfaction. Kearney, Plax and Wasco (1985) studied the relationship between teacher social presence behavior and student affective learning in traditional face-to-face classroom and found that teacher "immediacy" is a good predictor of student affective learning across varied course content. Hackman and Walker's (1990) study also provides evidence that "teacher immediacy" contributes to the students' satisfaction and learning in an interactive television class. Kelly and Gorham (1998) investigate the effects of immediacy behaviors and cognitive learning and found the positive relationship. Gorham (1988) concluded that verbal teacher immediacy behavior correlated with affective learning and cognitive learning. Gunawardena and Zittle (1997) conducted a study to find the relationship between students' sense of social presence and their satisfaction. They suggested that a sense of social presence is a very strong predictor of satisfaction.

In CMC environments, because of the lack of nonverbal communication, social presence could be low compared to face-to-face communication. Social presence theorists (e.g., Cutler, 1995; Walther & Burgoon, 1992) claimed that the amount of perceived presence in a computer-mediated communication is reduced because of the limited capability of the computer medium. In Hara & Kling's (2000) study, researchers found that the absence of physical cues such as gesture and facial expression led to some confusion and anxiety for students. Rovai (2002) points out that the students with a strong sense of community have feelings of connectedness and trust. The reduced social cues in online environment can have negative impact on communication and sense of community (Rovai, 2003). However, there are also some conflicting findings from field research, reporting the positive relational behavior in online environments. Recent research demonstrates communication and effectiveness are enhanced if the interaction time is not constrained (Markus, 1994). Research has reported that experienced computer users rated email and computer conferencing "as rich" or "richer" than television, telephone, and face-to-face conversation (Walther, 1992). Johansen, et al. (1988) suggested that social presence can be "cultured" among teleconference participants. Hiltz (1994, cited in Gunawardena, 1995) noted that the lack of nonverbal cues in online communication may limit information to provide context for communication, however, online participants may explicitly increase overt social-emotional expressions such as greetings and paralinguistic cues to compensate for missing communication cues. Research also reported that online users developed an ability to express missing nonverbal cues in written form by "emoticons" (icons that express emotion). Such cues add affective information, contextualize the message, and indicate informality

(Gunawardena 1997). The study also indicated that CMC users who felt a higher sense of social presence enhanced their socio-emotional experience by using emotions to express missing nonverbal cues in written forms.

4.1.5 Social presence from different cultural perceptions

Although there have been few studies of perceived social presence differences from different cultures in CMC, some researchers have suggested such differences exist. Powell and Harville (1990) found that Asian and Latino students required the greatest demand for teacher immediacy behaviors. Asian students favor teachers whose behavior is more expressive and relaxed. The perceived social relationship between instructors and students is critical to the level of social presence (Tu, 2001). Rifkin (1992) suggests that lack of immediacy would result in a lack of social presence, leading to anxiety, frustration, and a more critical attitude of the instructor's effectiveness.

Thompson and Heng (2005) explored Chinese graduate's experiences of and attitude to taking online courses in U.S.A. They found that Chinese students complained about not getting enough feedback and feedback time. All the participants believed that one day is adequate response time for returning e-mail message. Chinese students also are reported to demand immediate feedback from instructors. When immediate feedback is expected but not received, as Tu (2001) points out, social presence is decreased.

Compared to American students, Chinese students have inadequate English language skills. As Tu (2001) concludes, lacking English language competence can create an obstacle to developing relationships with others and further diminish their social presence. Chinese student's inadequate English skills also diminishes their ability to understand lectures, to take notes, to complete reading and writing assignments and

examinations, and to orally express their opinions and ask questions in classes (Cadieux & Wehrly, 1986). Due to the difficulty of understanding class lectures, Chinese students often feel reluctant to participate in class discussion. Moreover, students find the test constructions difficult to comprehend. Those who have English as a second language often require extra time to read their textbooks. Further, they are often unable to articulate their knowledge on essay exams or research papers due to their limited vocabulary (Lin, Jun-Chih Gisela & Yi, Jenny K. , 1997). In synchronous online environments, Chinese students struggle to design their ideal images through better writing and to impress people and usually feel frustrated because of their language incompetence. As Tu (2001) suggests, online communication is one of the dimensions of perceived online social presence, so the low perceived language competency would diminish social presence.

4.2 Intercultural communication differences in the online learning environment

4.2.1 Intercultural communication differences

Hall (1959, 1976), Hofstede (2001) and Trompenaars (1997) are amongst the many researchers who have constructed dimensions of cultural differences. Hall (1976) describes a culture in which information about procedure is not overly communicated as a “high-context culture” and culture in which information is explicit as “low context culture”. Hofstede (2001) defines culture as “the collective programming in the mind that distinguishes the member of one group or category of people from others” (p. 9) and he defines the four factors that have significant impact on behavior in all cultures: 1) power distance, 2) uncertainty avoidance, 3) individualism and 4) masculinity. Trompenaars (1997) generalizes seven cultural difference dimensions based on Parsons’ (Parsons, 1951) work. They are 1) universalism versus particularism, 2)

communitarianism versus individualism, 3) neutral versus emotional, 4) diffuse versus specific and 5) achievement versus ascription, 6) attitude to time, 7) attitude to the environment. Fontaine (2006) lists some other common culture differences. According to Fontaine, in “Western” cultures, particularly the U.S. culture, the primary unit of value is placed on the individual and Asian culture places a greater value on the relationship (the marriage, the friendship) or some form of collective. He also points out that in American culture, people expect others to express opinions honestly and describe what they “really” think. In a more collectivist cultures, a greater emphasis tends to be on maintaining relationship or group harmony. In the literature review of cultural differences for this research, selected research will only focus on the cultural differences that might lead to communication difficulties between American and Chinese students.

4.2.2 Cultural differences that may affect text-based online communication

As one researcher mentioned in the last paragraph, Hall (1976) asserted that all cultures engage in both high- and low-context communication and thus the two constitute the polar ends of a continuum rather than opposing constructs. Dodd (1998) pointed out that in general, North Americans tend toward the low-context conditions and Asians tend toward a high-context condition. Context is a fundamental issue for communication. The context is hard to define because “it refers not to a thing per se but a mixture of elements that is of interest to an individual meaning construction of a particular situation.” (Rita, 2005, p. 22). Hall (1959) referred to context as “information that surrounds an event”. The information includes nonverbal and situational cues that were present. The cues that transmitted to convey the message need to be decoded and then interpreted based on the background information already in the receiver’s possession. Rita (2005) suggests that

people in Eastern cultures and Western cultures contextualize messages differently and have different expectations of the roles of sender/receiver in communication. As such, while the West concentrates on the “encoding” of messages and places heavier reliance on word and culture, the East relies on the decoding skill of the receiver and places heavier reliance on cues beyond the words spoken or written. Dodd (1998) pointed out that the most frequent intercultural communication difficulty occurs when one person assumes a high-context mind-set, while the other person expects an explanation, looking for a low-context condition. This is because, for those in high-context communication cultures, the communication cues could make communication process less linear and more complex than low context communication cultures would conceive the process to be (Rita, 2005). Therefore, “context” could serve as a predictor of miscommunication.

According to Hall (1976), “A high-context message is one in which most of the information is either in the physical context or internalized in the person, while very little is in the coded, explicit, transmitted part of the message” (p. 79). Tone, gestures and environment setting contribute greatly to the delivery and comprehension of messages. Hall (1976) also pointed out that low-context cultures exchange information primarily on the basis of direct, explicit communication centered on precise, straightforward words. Therefore, a low-context communicator will expect the sender to provide all factors required to convey a message and hence the need to be specific (Hall & Hall, 1990).

The different communication styles of low-context and high-context cultures are also deliberated by Dodd (1998). Low-context cultures encourage the communicator to separate the issue from the person while high-context cultures tend not to. Members in a low-context culture typically avoid uncertainty. In contrast, high context cultures live

with more ambiguity. Members in high-context want information, but they can process information amid uncertainty. That is why silence is used as a major part of the strategy in high-context culture. Low-context culture members use direct style while high-context cultures members use indirect style. Low-context cultures seek information data emphasizing personal, individual aspects, high-context culture emphasize social factors in their interaction. Fontaine (2006) pointed out that low-context communication places the burden of communicating meaning or information on the symbols such as the words, phrases and gestures while high-context relies heavily on the *context* in which an interaction takes place to convey meaning: The words only serve as *cues* to the salient aspects of the context and the meaning of the words cannot be fully understood without understanding that context. Fontaine (2002 b) also asserted that most technologies in online communication are designed for low-context, explicit exchange of information. However, these technologies are usually less suited for the high context culture since they are accustomed to use nonverbal, indirect, context identifying cues or use of silence to convey the meanings.

A difference in power distance preference or expectations also exists between American and Chinese students. Hofstede (2001) concluded that cultures with a high power index accept inequality as the cultural norm. In Hofstede's high and low power distance culture ranking, the US ranks in the low power distance end of the dimension. Hong Kong, China ranks high in power distance. In a high power distance culture, people who have authorities make up the elite and people who are the powerless are expected to follow orders. The powerless accept the disparity between themselves and the powerful. In contrast, those cultures that are low in power distance are more horizontal. Low-power

distance cultures support equality for all people, with latent harmony between the power and powerless. Communication between everyone is encouraged (Dodd, 1988, Klopff & McCroskey, 2007). Fontaine (2002 b) suggests that online technologies are more supportive of those low power distance cultures. Because the power and leadership roles are more distributed among the team and members are significantly responsible for “supervising” themselves. It is not hard to conclude then, in online environments, people who come from a high distance culture would have certain expectation of their supervisors (instructors, bosses, or team leaders), such as to give instructions and to give feedback in a short time period. However, these expectations may not be fulfilled by supervisors who come from a low power distance and are not aware of these expectations. With a lack of nonverbal cues and context, it is difficult for high power culture people to figure out “why doesn’t my boss give me immediate feedback.” Thus, the frustration and anxiety may arise.

According to Hofstede’s (2001) ranking, the U.S ranks the No.1 as the most individualistic country and Hong Kong, China ranks No. 8 as the most collectivistic country. In the individualistic cultures, the self is independent. Klopff and McCroskey (2007) describe the self-concept in American culture as “we assume that every person is not only a biological entity but also a unique psychological being who is a singular member of the American society.... Our dominant self, visible in the form of individualism, pervades our relationship and is a party of our activities” (p. 90). In a high collectivism culture like China, people perceive themselves as being a part of a group. The group’s image, esteem, and achievement are primary and the individual’s attachments to the groups to which he or she belongs are strong. The feeling of belonging

to a group is important to Chinese culture. Researchers believe that this can explain why Chinese students usually have a higher expectation of relationship with other group members and may easily feel frustrated when they don't feel that they "belong" to their class. This could worsen in the online environment when students who come from collectivism culture are seeking "relationship" in an online class, nevertheless the students or teachers who are from individualistic cultures are only seeking to "finish the task" at hand.

4.2.3 Culture differences in learning environments

Chinese students, brought up in a high-context, collectivist and high power distance culture and a different education system, display different communication styles from American students and may have different expectations in terms of their communication with their instructors and other students. While they were studying in their native countries, most Asian students were teacher-oriented learners (Zhan, 1995). In Aubrey's study (Aubrey, 1991), Asian, Middle Eastern and African students reported that they have been trained to sit quietly in lecture-type classroom and take verbatim notes to be memorized in preparation for exams that are usually given only once or twice a year. In the Chinese education system, learning is fragmented, linear, competition-oriented, and authority-centered. There is little collaboration, creativity or communication among students (Hammond & Gao, 2002). By contrast, there has been a movement in much Western education to make learning more "dialogic." According to Hammond and Gao, dialogic learning is "the sustained, collective inquiry into the process, assumption and certainties that compose everyday experience"(p. 232). A dialogic approach encourages students to ask questions, to challenges ideas from teachers, other students or

even textbooks, and ask for original opinions. Some research (e.g., Tu, 2001) reports that in the online learning environment, Chinese students might not be aware that the role of the instructor is as facilitator rather than lecturer and that learning is more likely to occur during interaction among students and through self-discovery. They might feel disappointed not receiving clear or enough opinions from instructors (L. Thompson and H-Y, Ku, 2005). This may be rooted in the educational system that Chinese students are accustomed to.

As researchers mentioned before, a collective value is another cause of different communication styles in the learning environment. Collective values encourage Chinese students to fit in, to be reserved verbally and to eschew attention in the classroom. Chinese culture also tends to place a high value on team efforts or collectivity, whereas Western culture tends to emphasize individualism. Many Asian international students feel uncomfortable with the individualism and the competitiveness associated with American culture (Lin, Jun-Chih Gisela & Yi, Jenny K. 1997). In order to retain “harmony”, Chinese students will listen attentively but not give any opinions in the classroom, especially those with disagreements, so that conflicts will be avoided. Group harmony is achieved by showing politeness and maintaining face, both one’s own and that of others. By contrast, the American students in an individualistic culture are more willing to question, answer and debate. Some research (e.g., Chu, 1979) found that Chinese students are considered to be a silent group in the US classroom. They are not willing to participate in the class discussion because they fear giving the instructors negative impressions. Although encouraged by instructors, they are still hesitant to express their feelings and participate in the class discussions.

Chinese culture is also identified as a high power distance culture. The hierarchical and complementary relationship in society lead to the maximization of difference in age, sex, role, and status, and great respect for seniority, rank, maleness, which contributes to the harmony and a well-organized social order and administration (Zhang & Oetzel, 2006). Therefore, many of the Chinese international students are reluctant to share their feelings or emotions, express their opinions or oppositions to anyone, especially to authority figures. In Chinese culture, teachers are treated as the authority and obedience and conformity are expected from students. Traditional Chinese education dictates classroom behavior and teachers have absolute authorities. Therefore, Chinese students studying in the U.S.A are usually hesitant to participate in opening discussion, preferring to learn from the instructors rather than share possible erroneous opinions to fellow students (Tu, 2001). Smith (1982) found that Chinese students view teachers with absolute respect and admiration. Students who express different opinions from their teachers in the classroom may be considered defiant and offensive to the teacher. In contrast, American students in low power distance cultures are not inhibited by the strong need to show respect and deference to teachers. They are often engaged in confrontation and conflicts with teachers in the classroom to co-construct knowledge.

Gao and Ting-Toomey (1998) assert that Chinese students are taught to focus on *how* something is said, and on what is not said, thus “minimizing the potential misfortune resulting from speaking”. In a high-context culture, “one in which most of the information is either in the physical context or internalized in the person, very little is in the coded, explicit, transmitted part of the message” (p. 79). In contrast, in a low context culture, “the mass of information is vested in the explicit code” (p. 79). For Chinese

students, the nonverbal cues are important because the meaning resides in the unspoken message. In the online learning environment, Chinese students get frustrated and anxious when feedback from instructors was expected but not received. Partly this is because the “silence” was perceived as a nonverbal cue by Chinese students and was misinterpreted. In the Chinese culture, in order to keep “harmony”, the negative feedback usually is given in the form of “silence”. In Tu’s (2001) study, Chinese students are reported to have negative feelings when they do not receive a response or receive it late. As one student states “Did I ask a dumb question? So why hasn’t the teacher answered my email?” and “why didn’t the teacher answer my email? Because I am not a good student?” (p. 55). Tu also concludes “under these assuming uncertainties, Chinese student’s social presence is decreased” (p. 55).

Tu also points out that face-saving has a forceful impact on the Chinese student’ interaction in the online learning environment (Tu, 2001). In the online environment, Chinese students perceive the keyboard as a social form. Therefore, they consider good writing as the way to keep their good image. Chinese students spend much more time to polish their writing before posting it. However, in synchronous online environments they don’t have enough time to design their ideal images through better writing. As a result, they usually feel more threatened.

Chinese students’ inadequate language skill also is a cause for concern. This often admonishes their ability to understand the lecture, to take notes, to complete reading and writing assignments and examinations, and to orally express their opinions and ask questions in classes (Cadieux & Wehrly, 1986). Due to the difficulty of understanding class lectures, Chinese students often feel reluctant to participate in class discussion.

Moreover, students find the test constructions difficult to comprehend. Those who have English as a second language often require extra time to read their textbooks. Further, they are often unable to articulate their knowledge on essay exams or research paper due to their limited vocabulary (Lin & Yi, 1997).

5. Research Purpose and questions

The purpose of this study was to identify how U.S students and Chinese international students perceive social presence in an online learning environment and to gain a better understanding of the role of culture in their perceptions.

RQ1: Do Chinese and American students differ in the level of social presence perceived in online learning environments?

RQ2: How is the level of perceived social presence affected by the individualist /collectivist cultural difference?

RQ3: How is the level of perceived social presence affected by the power-distance cultural difference?

RQ4: How is the level of perceived social presence affected by the high/low context cultural difference?

5.1 Participants

During about a two-month of data collection, a sample of 103 volunteered and completed either the online survey or the paper survey. After the initial data screening, 13 cases were eliminated due to missing data. Thus, the final sample was 90 cases. Among 40 (44.4%) were American students and 50 (55.6%) were Chinese from China, including Mainland China, Taiwan, and Hong Kong. The average online classes taken by

participants was 3.16. The online courses taken by respondents ranged from 1 to 25. American participants took mean as 4.46 courses and Chinese students took mean 2.81 online courses.

Participants were asked to think about the online course they took most recently and answer the form based on that course. Forty-six (52%) took an online course where instructors only used the online medium. Twenty-seven (30%) took an online course where instructors used the online medium primarily and some face-to-face meeting (less than 3 times). seventeen (18%) took an online course where the instructors used near equivalent online medium and face-to-face meetings.

5.2 Procedures

The survey was distributed both through online and in person in a paper format. After the researcher developed the survey, the link to this web address was sent out via email. The researcher sent out the online survey via e-mail and asked samples, such as members of the CSSAUH (Chinese Students and Scholars Association of UH), to participate in this study. The link was also sent out to the other group to email addresses obtained through UH class instructors and other students. Participants were recruited from HPU (Hawaii Pacific University) and other Universities by this method. Data were collected from an online website as well as in person. Using the snowball-sampling method, the researcher distributed 70-paper survey to UH students and HPU students. The respondents either finished it at the time of distribution or took the survey home to complete and return.

5.3 Instrument

The questionnaire provided to respondents was in both English and Chinese. It included three parts: (1) demographic online class experience, (2) cultural experiences, and (3) social presence scales. Online class experience included the participants' nationality, the number of online courses taken, the form of the online course, and identification of a communication tool that respondents have utilized. There were three dimensions of cultural differences in the questionnaire with forced-choice scales: (1) individualism and collectivism difference, (2) high and low power difference, (3) high and low context difference. Individualism/collectivism and high/low power difference questionnaires were adapted from Hofstede's (1986) work of cultural differences in teaching and learning. Each set of questions in the questionnaire included 4 pairs of statements and each pair contains two statements: an individualist preference and collectivist preference statement, and a high and low power distance preference statement. Respondents were asked to choose one statement that was the most true to them from each pair. In the individualism/collectivism dimension, the respondents who chose more than 3 statements from collectivist preference statement were categorized as "collectivist preference individuals" and the rest were categorized as "individualist preference individuals". With the same method, in power distance dimension, the respondents who chose more than 3 "higher power distance" statements were categorized as "higher power distance preference" and the rest of the respondents were categorized as "lower power distance preference". These questions, by no means can separate participants as "having a individualism culture" or "having a collectivism culture" nor from "having a high power distance culture" or "having a low power distance culture."

Instead, these questions serve as indicators of the participants' preference of having different kinds of cultural "mindsets".

The high/low context difference communication scale included 6 items that were adopted from Richardson and Smith's (2007) work. In their study of the influence of high/low context cultures and power distances on the choice of communicate media, Richardson and Smith built a scale based on Ohashi's (2000, cited from Richardson & Smith, 2007) measurement. This researcher chose 6 items from their 17 items measurement tool that best fit in a text-based context. The respondents who chose more than 4 "yes" answers to the statements were categorized as "higher context preference individuals" and those who chose less than 4 "yes" answers to the statements were categorized as "lower context preference individuals". Again, this researcher had no intension of using this scale to separate students who "have a high context culture" from those who "have a low context culture". This scale serves as an indicator of participants' preference of communication style.

Social presence scales, as primary scales for this study, were adapted from Tu's (2001) social presence scales designed for online learning communication. Tu's questionnaire contains 30 questions, which include 13 questions about privacy. In his later study, Tu and his colleague McIsaac (2002) had concluded that the correlation between social presence and privacy was insignificant. Therefore, the questions related to privacy were moved from this researcher's questionnaire. Two other questions were added to this questionnaire. These two questions were related to how participants perceived their English reading/writing skill and their keyboard skill. These two questions reflect Tu's (2001) conclusion that the lack of English language competence

can create an obstacle to developing relationships with others and further diminish students' social presence. Instead of using a five-point Likert type scale, for this study I chose to use a four-point Likert type scale to measure the level of social presence (1 for "strongly disagree" to 4 for "strongly agree"). A total social presence score was counted for each respondent. Besides these scales, three open-ended questions were asked " What do you like best about online classes" and " what do you dislike most about online classes" and " if you think the response time exceeds your expected limits, then how long is an adequate response time?"

5.4 Data analysis design

Two-tail independent t-tests were used to exam the RQ1: "Do Chinese and American students differ in the level of social presence perceived in online learning environments," with the social presence score as a dependent variable and nationality as an independent variable. Nationality in this case has two categories, "Chinese student" and "American student".

Two-tail independent t-tests were also used to exam the RQ2: "How is the perceived level of social presence affected by individualist /collectivist cultural difference?", RQ3: "How is the perceived level of social presence affected by power-distance cultural difference?", RQ4: "How is the perceived level of social presence affected by high/low context cultural difference?" Individualist /collectivist preferences, high/low power distance preferences, and high/low context preferences were used independent variables and social presence scores were a dependent variable.

6. Results

In terms of RQ1, the result revealed that Chinese students ($M= 42.66$, $SD= 7.59$) reported significantly less social presence than American students ($M=53.65$, $SD=4.29$). ($t= -.8159$, $df =88$, $p < .05$)

In terms of RQ2a, the results did not reveal a significant difference between high ($M= 42.67$; $SD= 6.07$) and low individualism ($M= 50.95$; $SD=8.10$) ($t= 5.257$, $df=88$, $p>.01$) on perceived social presence.

In terms of RQ2b, the results revealed a difference between high power distance difference ($M= 43.06$, $SD=8.08$) and low power distance difference ($M= 52.67$, $SD=8.10$) that approached significance ($t= 6.60$, $df= 88$, $p< .10$) on perceived social presence.

In terms of RQ2c, the result did not reveal a significant difference between high ($M=44.44$, $SD=6.28$) and low ($M=51.62$, $SD=9.06$) ($t=4.44$, $df=88$, $P>.01$) context preference on perceived social presence.

In this survey, additional questions were asked to further clarify the difference between Chinese and American students perceptions of online classes. The first one “if you think the response time exceeds your expected limits, then how long is the adequate response time?” ($N=57$) respondents answered these questions. A summary of results is presented in Table 5.

Table 5. Summary of students' expected response time

| | American | Chinese |
|----------------------------|----------|---------|
| Within 8 hours | 4 | 20 |
| Between 8hours to 24 hours | 6 | 13 |
| More than 24 hours | 11 | 3 |
| Total | 21 | 36 |

From two figures in next page (Figure 2, Figure3), it is clear that 81% of Chinese students in this study expected their instructor give them a response in 24 hours, 3% of Chinese respondents reported that they expected a response as soon as possible, 8% reported that their expectation will depend on the situation. However, only 29% of American respondents in this study reported to expect to receive a response in 24 hours. 51% of American respondents reported that they expected a response within three days or longer, 14% reported their expectation of a response will depend on the situation and 5% reported that they expected to get a response as soon as possible.

Figure 2. Chinese and American students expected response time comparison.

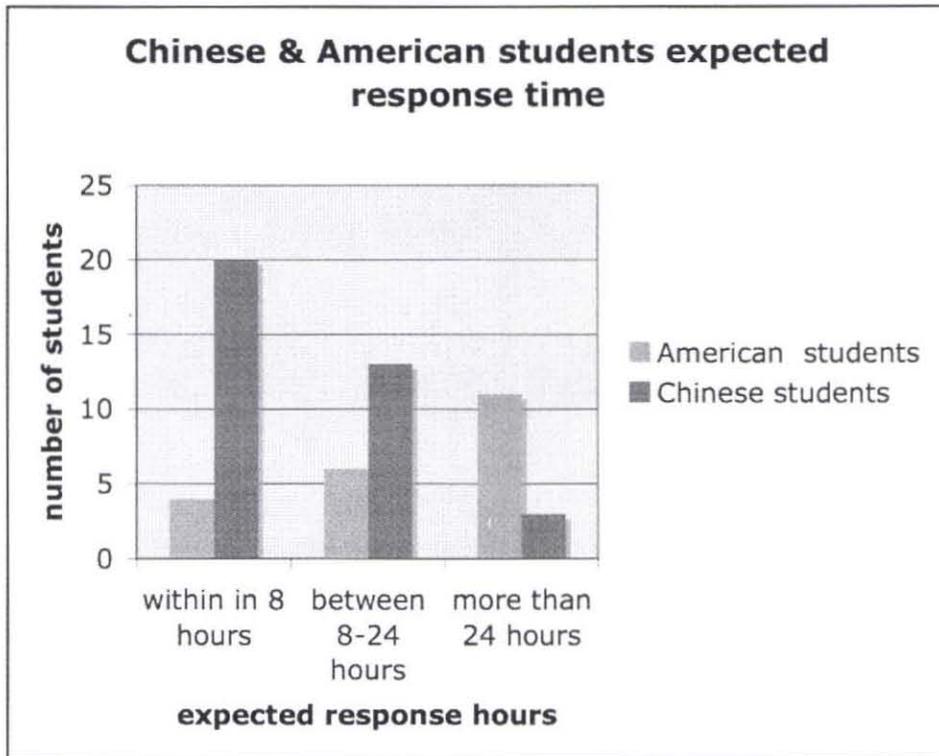
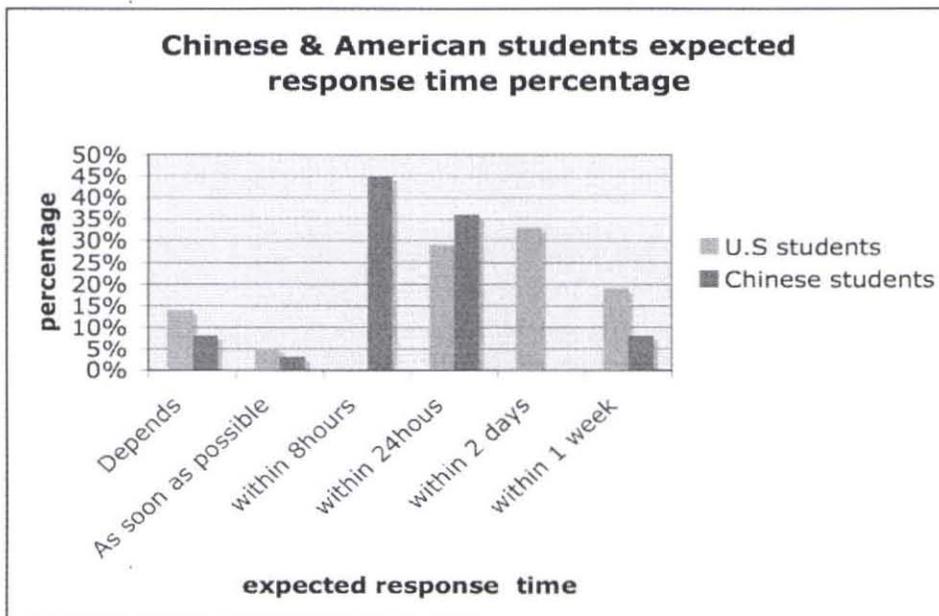


Figure 3. Chinese and American students expected response time percentage



These other two questions were also asked: “What do you like best about the online class?” And “what do you dislike most about online class?” A summary of results is presented in Table 6.

Table 6. Summary of Open Question Results.

| <i>What do you like best of the online class?</i> | Chinese students | American students |
|--|-------------------------|--------------------------|
| <i>Convenience</i> | <i>X</i> | <i>X</i> |
| <i>Flexibility</i> | <i>X</i> | <i>X</i> |
| <i>More chance to express oneself in discussion</i> | <i>X</i> | <i>None</i> |
| <i>Have more time to think before response</i> | <i>None</i> | <i>X</i> |
| <i>Connection with world</i> | <i>None</i> | <i>X</i> |
| <i>What do you dislike of the online class?</i> | Chinese students | American students |
| <i>Technology problem</i> | <i>X</i> | <i>X</i> |
| <i>Time lag</i> | <i>None</i> | <i>X</i> |
| <i>Time consuming/Heavy workload</i> | <i>None</i> | <i>X</i> |
| <i>No immediate response</i> | <i>X</i> | <i>X</i> |
| <i>Impersonal</i> | <i>X</i> | <i>X</i> |
| <i>Misunderstanding</i> | <i>X</i> | <i>X</i> |
| <i>Lack of face to face interaction</i> | <i>X</i> | <i>None</i> |
| <i>Chaotic communication</i> | | <i>X</i> |
| <i>Hard to build relationship with teacher</i> | <i>X</i> | <i>None</i> |
| <i>No personal interaction with classmates</i> | <i>X</i> | <i>None</i> |
| <i>Hard to get help</i> | <i>X</i> | <i>X</i> |
| <i>Team project</i> | <i>None</i> | <i>X</i> |
| <i>Hard to learn material on my own</i> | <i>X</i> | <i>None</i> |

7. Discussion

The most significant part of this study is the finding that different levels of social presence are perceived by Chinese international students than American students in the online learning environment. Specifically, American students perceived a higher level of social presence in an online learning environment. As presented in the literature review, there are some elements that may contribute to this difference. Besides individualism/collectivism, high/low power distance, high/low context differences, the other differences, such as a “saving-face” effect, English reading/writing, and keyboard skills may also contribute to the perceived social presence differences.

The answers to the open-ended questions in this study may give more insight into the causes of these different levels of perceived social presence. There was a big difference in the expected response time from their instructors between Chinese and American students.

This result is consistent with Thompson and Heng’s (2005) research results that Chinese students demand feedback sooner. In their study, they found that Chinese students complained a lot about the feedback time. In online courses, most Chinese students reported that they took their instructors’ feedback seriously and demanded immediate feedback from them. Tu (2001) pointed out that “when the response time exceeds expected limits the level of social presence is greatly diminished.” As the response time serve as an important communication element for a receiver’s understanding of a senders’ real meaning. Also, “silence” is commonly interpreted as a negative response. In Tu’s (2001) study, Chinese students started doubting the content of the message or misinterpreting “non-verbal cues” generated through no response or a late

response, “why did not the teacher answer my e-mail? Because I am not a good student?” Under these assumptions of uncertainty, Chinese students’ social presence was decreased. In this study, 72% of Chinese students (32 out of 50) believed that the response time exceeded their expected limits and 53% (21 out of 40) American students believed that the response time exceeded their expected limits. As the data shows, 45% of Chinese students expected a response in 8 hours but none of the American students expected a response in 8 hours.

As to the question “what do you dislike about the online class?” Chinese students and American students reported some similar elements that contributed to their dissatisfaction of online communication courses such as no immediate response, impersonal, misunderstandings and hard to get help. However, there are some different comments made by Chinese students and American students too.

In this study, none of the American respondents reported that “hard to build relationships with teachers” was the element that they disliked about online classes. However, several Chinese students mentioned that “hard to build relationships with teachers” and “lack of face-to-face interaction with teachers” were two important elements that they “disliked about online classes”. One Chinese student wrote, “I can not see the teacher and she can not see me, and this makes it difficult to build a relationship with each other. This sometimes made me very frustrated.” Some research (e.g., Shea, Li & Pickett, 2006) suggested that there is a clear connection between perceived teaching presence and the students’ sense of community. From their study, Shea, Li and Pickett found that students’ sense of trust, collaboration, shared educational objectives, support and learning can be molded and predicted from their instructors’ “teaching presence”.

Rovai (2002) also argued that student's sense of connectness and knowledge construction develop through participation in supportive learning communities. While a teaching presence is important, students from different cultures may require different levels of a teaching presence. In Powell and Hartville's (1990) study examining the relationship between a teacher's verbal and nonverbal immediacy and clarity, they found that the differences in the affect of immediacy on clarity for certain ethnic groups, with Asian and Latino students showing the greatest demand for teacher immediacy behavior. When we look at the reasons why Chinese students expect to build relationships with teachers, we can find the answer to be enlightened from these cultural differences. In a high power distance cultural, the Chinese teacher is viewed with absolute respect and admiration (Smith, 1982). Therefore, by building a relationship with teachers, a positive response and affirmation from teachers will increase Chinese students' confidence, especially Chinese students who are foreign students and have limited English language skills. One student commented, "I don't think my instructor knows that I am a Chinese student and I am struggling with writing messages, because she can not see me and I can not see her." As we know from the previous literature review, students' social presence is largely created by the instructors of the online community (Gunawardena, 1997). Obviously, when Chinese students experience lack of relationships with instructors, the level of social presence is decreased.

In this study, "Hard to build relationship", whether with other students or teachers, was commonly reported by Chinese students and none of the American respondents reported it as their concern. Do students need to build relationships in order to finish their assignments? Why do Chinese students want to build relationships? Tu's

(2002) study data revealed that social relationships impact the level of perceived social presence. Fontaine (2002b) suggested, "Online environments tend to be task focused with restricted opportunities of a full range of more social, relationship development and continuity activity." For American students, most likely, "the team begins with the task, ends with the task and does very little other than the task." (Fontaine, 2002) However, for Chinese students from a collectivistic culture, building relationships is the priority and the primary step in doing the task. In the online learning environment, with restricted opportunities for social relationship development, moreover, with the unawareness of their American instructors and American students of this expectation, Chinese students would find it frustrating to build a relationship online. As a result, it may negatively impact their perceived social presence and satisfactions.

A heavy workload was commonly reported from students who took online classes. In the online learning environment, multiple messages are allowed to occur simultaneously, and a significant amount of messages can create a heavy load of reading. Interestingly, in this study, while American students reported "too much assignments, especially reading others' postings" and "too much information online" in the online class, no Chinese student reported that "a heavy workload reading" was their concern. This researcher believes that Chinese students, like their American student counterparts, have also faced the heavy reading load in the online class and due to their English language limitation, the assignments may be more time consuming for them. However, as long as they have enough time to finish, they will try their best. In fact, in Tu's (2001) study, he found that Chinese students spend a lot of time reading, writing and polishing their writings before posting them. Asynchronous online communication provides a safe

environment for them since they perceive that the bad quality writing when they correspond with instructors causes them to lose face. On the other hand, Chinese students reported “hard to learn material myself” and “I think I can learn more in a real class”. Online learning promotes student-centered learning. In online learning environments, instructors post the learning material and expect students to learn themselves. Chinese students who were used to “sit and listen” styles in their native country may find it difficult to adjust in learning this themselves.

In this study, both American and Chinese students reported that “convenience” and “flexibility” are two elements that they “like best about online classes”. Besides, American students report that online communication enables them to “have more time to think before responding” and to develop “the ability to communicate with people all around the world”. Chinese students reported that online communication gave them “more chances to express oneself in discussion”. From a collectivism cultural background, as well as a learning background of being trained to sit quietly in lecture-type classroom and take verbatim notes, Chinese students may have a difficult time speaking up in American classrooms. However, online communication gives them opportunities to express themselves equally. As Misanchuk, et al. (1997) referred online communication as “egalitarian”, online communication provides a platform that lets students have equal access to discussions that would not be hindered by a shy personality or culture. A student wrote “as an introvert, it gives me time to formulate my thoughts and not be intimidated by someone’s strong face-to-face presence, use of verbal cues or tonality” and “the sense of being shy is not there. You don’t have to be shy in speaking up”. This supports Thompson and Ku’s (2000) finding that most Chinese students liked

the discussion board and they were not afraid of asking questions and speaking up. The researcher believes this characteristic of online communication may enhance the Chinese students' learning experience because they feel freer to express themselves. Therefore, there may be an increase of perceived social presence.

The main purpose of this study was to find that if Chinese and American students differ in the levels of social presence perceived in the online learning environment, how do the cultural differences influence perceived social presence. As the quantitative data shows, the social presence difference is statistically significant between Chinese students and American students. For the second group of quantitative data, although the means of social presence between collectivism/individualism (Table 2), high/low power (Table 3), high/ low context (Table 4) are different, with individualism, and low power, and low context group reporting a higher social presence, there is no statistical significance. The researcher believes that several factors could contribute to this result. 1) None of the cultural differences can stand alone to contribute to the lower social presence perceived by Chinese students. 2) According to Hofstede's (1986) study, the most significant difference between Chinese students and American students are collectivism/individualism, high/low power distance and high/low context differences. However, other cultural differences may also exist, such as face-saving, learning background, perceived English language/computer skill competency. 3) The scales, which contain 4 to 6 questions, may not reflect precisely the cultural "mindset" of respondents. 4) The Chinese respondents in this study were students who were originally from China's mainland, Hong Kong and Taiwan. However, studying in U.S and immersing in American culture may influence their "culture mindsets". Therefore, the

collectivism/individualism, high/low power distance and high/low context scales may not reflect Chinese students' cultural tendencies precisely.

8. Limitations and Future Research

The inherent limitation of the current study is the retrospective nature of the self-report method. This study is not intended to measure students' actual perceived social presence but to measure their perception of online course communications over time. A longitudinal research design however seems to limit the test for actual variation of social presence.

In addition to the self-report method, the result of the study may be constrained by the sample size. Future study can employ a larger sample size to test the results.

The study only took cultural differences into consideration as the variable that affects the level of perceived social presence. Tu (2001) suggests that there are three main factors that affect the students' social presence: subjective perceptions of students, different online systems, and how instructors engaged students in active online interaction. Further step can be taken in future studies to exam whether and how Chinese students and American students perceive the different degrees of social presence of each online system, such as email, bulletin board, and real time chatting.

Recent research shows that using other tools with online communication, such as text messaging, can improve students' social presence (DuVall, et. al, 2007). Hence, future studies could also be conducted to test how the online and text messaging combination affect the social presence perceived by Chinese and American students. As Tu (2001) pointed out, how instructors engage students in active online interaction will also affect students' social presence. Chinese online instructors who share the same

culture with Chinese students may engage students differently in online learning environments.

Future studies could also be conducted to determine how online social presence differs between Chinese students who took online classes from Chinese teachers and Chinese students who took online classes from American instructors.

As researcher mentioned above, the Chinese respondents in this study are international students who may have been culturally influenced by studying in the U.S and immersing in American culture. Therefore, their cultural tendency of collectivism/individualism, high/low power distance and high/low context may be different from Chinese students who study in China. Future study can be conducted to compare the online social presences perceived by Chinese students from China and from the U.S, as well as by American students to gain more insight of the relationship between culture difference and perceived online social presence.

This current study also does not take asynchronous and synchronous functionality into examination. Yet, synchronous online environments may be threatening to Chinese students. Chinese students, who have relatively limited English language skills have less time to design their ideal images through better writing, will find it difficult to “save face”. This may greatly affect their perceived social presence. Therefore, there is possibility that in the asynchronous and synchronous online environments, social presence perceived by Chinese students is different. Future study could focus on how Chinese students perceive the synchronous and asynchronous systems and whether the perceived social presence is the same or different.

9. Conclusion and implications

While online communication may never substitute for face-to-face communication in the learning environment, it is clear that the characteristics of online communication such as liberating geographical constraints, providing flexible schedules that suit individual needs and preferred learning styles, accessibility, and convenience can benefit students in the larger context. The other functionality, such as discussion boards that provide a safe platform for Chinese students to express themselves can greatly benefit Chinese students. However, one cannot neglect the cultural differences that may cause difficulties for Chinese students. As the study results reveal, compared to American students, Chinese students perceived lower social presence in the online learning environment. Literature reveals that lower social presence leads to lower satisfaction (Gunawardena, 1997), lower levels of interactivity (Tu, 2000), lower levels of interpersonal relationships among users (Walther & Burgoon, 1992), and lower levels of student affective learning (Kearney, et al. 1985). The ultimate goal of online education is to provide people with equal learning opportunities.

This researcher believes that this goal would not be achieved unless the cultural issues are taken into consideration in the online learning environment. For example, in some areas, it is unrealistic to expect Chinese students to perform at the same level as American students, such as in a synchronous online learning environment. Therefore, instructors need to accommodate the needs of students from different cultural backgrounds in the online environment.

Since some researchers (e.g., Shea, Li & Pickett 2006) suggested that there is a clear connection between perceived teaching presence and the students' sense of

community, how instructors engage students in online learning may affect the level of perceived social presence by students. As the literature reveals from this study, Chinese culture is different from American culture; therefore, American online instructors need to know how to instruct effectively to engage Chinese students in a more interactive learning environment. As this study reveals, Chinese students expect faster feedback. Tu (2001) also found that “responding to Chinese students’ message within an appropriate time span is very critical to maintaining their continued interaction (p. 57)”. This researcher also believes that timely responses from instructors are valuable to establish and increase Chinese students’ perceived social presence. Aragon (2003) suggested that instructors’ answer to students’ email should be in twenty-four hours unless stated otherwise. This Researcher believes that this strategy will greatly increase Chinese students’ social presence.

This study also reveals that it is important for Chinese students to build relationships with instructors and other students. Tu (2001) also suggested that social relationships and friendly attitudes must be encouraged; otherwise, Chinese students will hesitate to interact in the online learning environment. Therefore, strategies should be developed to meet Chinese students’ needs. Aragon (2003) suggested sharing personal stories and experiences could significantly facilitate social presence. In addition, using humor can reduce social distance and convey good will within the learning environment by serving as a factor in immediacy. Using emoticons can also help convey the nonverbal cues of the communicator and help other participants interpret the messages more accurately. The instructors should also outline the behavior expected in the online

learning environment and remind each student to be aware of the cultures of the other students.

Course design can also affect the level of social presence. Aragon (2003) suggested that developing a welcome message; including student profiles and limiting class size can facilitate the establishment of social presence. This may be more important to Chinese students who culturally are more relationship-oriented. By using these strategies, Chinese students will have a platform for building informal social relationships with others before they enter into the task, which, this researcher believes, will greatly increase their perceived social presence.

Instructors also need to build a comfortable synchronous learning environment to accommodate Chinese students. A fast paced discussion can create anxiety and confusion that discourages Chinese students to get involved. The Instructor should lead discussions that prevent American students who possess better typing and language skills to dominate the conversation. Chinese students should be encouraged to participate in the conversations throughout the entire course.

On the other hand, Chinese students who plan to take online courses should also keep in mind realistic expectations, while preparing for the obstacles that they may face in an online learning environment in America. In online environments, social ability is defined differently from face-to-face communication. Chinese students who are accustomed to high context communication will find most cues are missing in online communication. Therefore, they need to develop the ability to communicate effectively with writing.

The online learning environment can more effectively serve its purpose of providing people with equal learning opportunities and this purpose cannot be achieved unless the cultural issues are taken into consideration in this learning environment. Therefore, effort should be made by instructors, the course designers and international students themselves to build strategies to communicate more effectively in the online learning environment to reach a higher social presence.

Appendix: Instruments
Part one: Online Class Information

Please check the item that best describe you.

1. What is your citizenship? 您是
_____ (1) Chinese (include China Mainland, Hong Kong, Taiwan) 中国人
(包括中国大陆, 香港, 台湾)
_____ (2) U.S美国人
_____ (3) Others其他 (Please stop here and return this survey to the researcher)
谢谢您! 请停止填写问卷

2. What is your major?
您的专业是?
-

3. How many online course/-es have you taken?
您曾经上过多少网络课程?
-

4. What is your first language?
您的第一语言是什么?
-

5. Please think about the online course you took most recently. In this course, what was the form of online course you took? 请回想您最近上的网络课程, 在修这门课时:

- _____ (1) Instructor only uses online medium. 教师仅使用网络教授 .
_____ (2) Instructor use online medium primarily and some face-to-face meetings (Less than 3 times). 教师使用网络教授, 也使用面对面的教授(面对面的教授在三次以内)
_____ (3) Instructor uses about equivalent online medium and face-to-face meetings. 教师使用一半网络教授, 一半面对面的教授.

Part two

From each group pairings, please check one statement that is most true to you.

请在每组陈述中选择您最认同的一个。

(Individualism and collectivism)

_____ 1. Neither the teacher nor any student should ever be made to lose face in class.
在课堂上, 不应该有让老师和学生丢面子的事发生。

_____ 2. Saving - face should not be a concern neither for the teacher or the student in class.
在课堂上, 没有必要考虑老师或学生丢面子的事。

_____ 1. I should only speak up in class when called upon by teacher. 在课堂上, 当老师向我示意时, 我方可发言。

_____ 2. I may speak up spontaneously in class. 我可以在课堂里自发发言。

_____ 1. For education, diploma certificates and networking are very important.
教育的目的中, 文凭和人际关系网非常重要。

_____ 2. For education, gaining knowledge and skills are very important.
教育的目的中, 学到知识和技能非常重要。

_____ 1. Harmony in learning situations should be maintained at all times.
在学习环境中应该总是保持和谐融洽。

_____ 2. Confrontation in a learning situation can be salutary; conflicts should be brought into the open. 在学习环境中, 不同观点的对撞是有益的。冲突应该公开化。

(Power distance)

_____ 1. Student should be the center of education. 学生应该是教育的中心。

_____ 2. Teacher should be the center of education. 老师应该是教育的中心。

_____ 1. Teachers should be respected at all times - inside and outside of the class.
老师应该在课堂教学内外都受到尊重。

_____ 2. Teachers should be respected inside of the class. However, outside of class, teachers should be treated as equals as students. 老师在课堂内应该受到尊重。但是, 课堂之外, 老师应该和学生平等。

_____ 1. Effectiveness of learning is related to the amount of two-way communication in class. 学习的效果和双向交流紧密相关。

_____ 2. Effectiveness of learning is related to the excellence of the teachers. 学习的效果的好坏和老师的优秀程度紧密相关。

_____ 1. Students can contradict or criticize teachers in class.
学生可以驳斥或批评老师。

_____ 2. Students should never contradict or criticize teachers in class.
学生永远不可驳斥或批评老师。

(High/ low context)

Questions below ask if you agree or disagree with each statement. Please check those statement that you are agree with.

请阅读以下的陈述, 选择所有您同意的陈述。

- _____ 1. It is more important to state a message efficiently than with great detail.
有效率地表达比给出很多细节更重要。
- _____ 2. People should be able to understand the meaning of a statement by reading between the lines. 人们应该能够从字里行间中读出隐含的意思。
- _____ 3. Intentions not explicitly stated can often be inferred from the context.
没有明白地陈述出来的意图可以从阅读上下文中推断出来。
- _____ 4. People understand many things that are left unsaid.
人们能够明白很多没有说出来的意思。
- _____ 5. Fewer words can often lead to better understanding.
简洁的语言常常会产生更好的理解。
- _____ 6. Some ideas are better understood when left unsaid.
有些意思不说更容易让人领会。

Part three: Social Presence

The following questionnaire has been developed to investigate your attitude toward online learning communication including e-mail, and the Bulletin board and Instant messenger. You are to consider your online course taken most recently. You will be presented with a statement about online Communication are listed under each statement. Your responses will remain anonymous.

Thank you for your assistance!

以下的问卷设计是为了调查您对使用网络作为学习交流工具的态度.网络交流工具包括 Online Chat, Forum, Email 和其他. 请回想您最近所上的网络课程, 并回答以下的问题.您的回答会被保持匿名. 谢谢您的合作!

1. Text-based online communication messages are social forms of communication.
文本式电脑网络交流 (Text-based online communication messages)
是一种社交型的交流方式.

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

2. Text-based online communication messages are an informal and casual way to communicate.
文本式电脑网络交流是一种非正式, 随意的交流方式.

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

3. Text-based online communication messages convey feeling and emotion.
文本式电脑网络交流能传达情绪和感情.

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

4. Text-based online communication messages are impersonal (do not have qualities or Characteristics).

文本式电脑网络交流是客观和冷淡的。

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

5. Text-based online communication is not confidential enough to use to communicate personal and/or sensitive information.

文本式电脑网络交流不够机密,因而不能用于交流个人化/敏感的信息。

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

6. Text-based online communication is a sensitive means of communicating with others.

文本式电脑网络交流是一种能传达微妙信息的交流方式

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

7.Using Text-based online communication to communicate with others is pleasant.

使用文本式电脑网络与他人交流令人愉悦

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

8.The replies to my Text-based online communication messages are immediate.

他人能对我的信息作出即刻回复。

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

9. If you think the response time exceeds your expected limits, then how long is an adequate response time?

如果您认为他人对您的回复超过了您预期的时间,那么您认为多长应该是合适的回复时间? _____

10.Users of Text-based online communication are normally responsive to messages.

通常来说,电脑网络通信的使用者会对他人所发送的信息作出回应。

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

11. The language people use to express themselves in online communication is stimulating.

在电脑网络交流里, 人们表达他们自己的语言富有激情 (stimulating).

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

12. It is difficult to express what I want to communicate through Text-based online communication.

要通过电脑网络来表达我想交流的内容是困难的.

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

13. The language used to express oneself in online communication is meaningful.

电脑网络交流里人们使用的语言是富有意义的 (meaningful).

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

14. The language used to express oneself in online communication is easily understood.

人们在电脑网络交流里用于表达自己的语言明白易懂.

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

15. I am comfortable participating, if I am familiar with the topics.

如果我对某个题目不熟悉, 我也会轻松自在的参与讨论.

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

16. I am uncomfortable participating, if I am not familiar with the topics.

如果我对某个题目不熟悉, 我不会轻松自在的参与讨论.

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

17. I am comfortable communicating with a person who is familiar to me.

我能轻松自在地与那些我熟悉的人交流.

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

| | | | |
|----------|--|--|--|
| disagree | | | |
| | | | |

18. I am comfortable communicating with a person who is not familiar to me.
我能轻松自在地与那些我不熟悉的人交流。

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

19. I am competent with my English reading and writing skills.
我有充分的英语读, 写能力。

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |

20. I am competent with my keyboard skills. 我有充分的键盘使用能力。

| | | | |
|-------------------|----------|-------|----------------|
| Strongly disagree | Disagree | Agree | Strongly Agree |
| | | | |
| | | | |

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