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PERCEPTION OF SOCIAL PRESENCE IN ASYNCHRONOUS AND SYNCHRONOUS

ONLINE DISCUSSION FROM THE

PERSPECTIVE OF NATIVE AND NON-NATIVE SPEAKER

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ABSTRACT

The technology innovation of telecommunication gave confidence to educational institutions to substitute some of their courses from traditional courses into virtual ones. This switch in education inspired globalization. The learners use either synchronous or asynchronous communication tools to interact with each other. Most previous studies in this field show that social presence is correlated with learner achievement satisfaction and interaction. So the researcher measured the level of social presence for both groups of learners, native and non-native speakers, across both types of online communication, synchronous and asynchronous communication. The researcher conducted a 2x2 split-plot ANOVA design with repeated measure for this study. The four cells in this design help the researcher to find how every group differs in both discussion formats. The findings of this study will lend a hand to institutions, instructional designers, instructors, and software and hardware developers to improve and concentrate on preferable methods of communication for global virtual institutions.

The researcher did not find a statistically significant difference between native and non-native speakers across the methods of online communications. There was no statistically significant difference between the learners in general across the methods of online communications. But the reported low level of agreement toward the level of social presence in both methods of online communication emphasizes the importance for all people who are concerned about virtual education to work hand in hand to elevate the level of social presence in online learning.

The researcher encourages those who are concerned about online learning, and education in general to be the early adopters of technology such as Smartphone applications and the advanced features of social networking such as Facebook and Google wave.

ACKNOWLEDGMENT

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CHAPTER 1

INTRODUCTION

Background of the Study

Technology innovations within telecommunication have encouraged educational institutions to switch some of their courses from traditional learning to online learning. The associated cost efficiency and time flexibility of online learning attracts learners (Hanna, 1998; Zhang, Zhao, Zhou & Nunaker, 2004). Gladieux (2000) asserted that "Recent developments in information technology and distance learning have combined with economic forces to fuel a global market for postsecondary (tertiary) education" (p. 351). Gladieux stated, "The Internet has great power and potential for good. It must not be permitted to become a new engine of global inequality" (p. 351). Drucker (2000) stated "Online teaching, however, is more than just time-efficient and cost-efficient… With the interactivity of the Internet, we get the equivalent of a one-to-one teacher-student ratio" (p. 85). The Sloan Consortium reported that there were around 4 million students taking at least one online course in the fall of 2007. More than 20% of the higher education students in the United States were taking at least one online course. The students who were taking online courses rose from around 1,600,000 in Fall 2002 to 4,000,000 in Fall 2007 (Allen & Seaman, 2008). In December 2008, the National Center for Education

Statistics reported that more than 65% of the educational institutions of higher education offer college-level distance courses (Parsad & Lewis, 2008).

There is a growing demand for providing online learning in higher education (Drucker, 2000; Goodyear, Salmon, Spector, Steeples, & Tickner, 2001; Hanna, 1998; Hiltz & Turoff, 2005). Hanna (1998) stated that "Growing demand among learners for improved accessibility and convenience, lower costs, and direct application of content to work settings is radically changing the environment for higher education in the United States and globally" (p. 67). The Sloan Consortium reported that nearly 70% of the academic leaders agreed that the demand for online learning is growing. Moreover, 83% of all US institutions of higher education offer full or partial online courses (Allen & Seaman, 2007). Seventy percent of institutions agreed that there is now an increasing competition for online students (Allen & Seaman, 2008).

Virtual classrooms encourage more globalization. The growth of virtual classrooms calls for more study of the online behavior of different population (Hlas, Schuh, & Alessi, 2008; Teng, 2005; Tu, 2001). There are different students speaking different languages meeting in one virtual classroom and discussing one issue. This fast change is pushing researchers to find the applicable method of communication that leads to high quality learning for both native speakers and non-native speakers.

Higher education in the United States is growing both globally and multiculturally. The Pew Research Center reported that nearly 12% of the American population, one of eight, are immigrants (Passel & Cohn, 2008). According to the Institution of International Education (IIE), international students in the United States reached record numbers in 2007/2008. The number has exceeded 600,000 international students (IIE, 2008). International students represent 5% of the online students in the United States in fall 2007 (Allen & Seaman, 2008). Mason (1996)

stated "I only conclude from my studies that global education is a phenomenon to be reckoned with for all those in higher education and training" (p. 69).

The Effect of Social Presence on Online Learning

There are two types of communication in distance learning. The first one is synchronous communication, which means real time communication, such as using the chat room, audio conferencing, or video conferencing. The second type is asynchronous communication that does not require interaction at the same time, such as discussion boards, blogs, and emails. The instructors and instructional designers need to be aware of the suitable type of communication in these virtual globalized classrooms. Learners are looking for a suitable educational environment. All are looking for effective learning and high satisfaction for learners and instructors.

Native and non-native speakers need to communicate in a social context that cultivates educational environments and encourages more interaction and collaboration. Nunan (1999), Tu (2001) and Hlas et al. (2008) believe that non-native speakers do not participate in face-to-face classrooms not only because they lack language ability but also because they are not familiar with the active role that the American student is used to following due to the local culture and different learning styles. Tu stated that "Chinese students are hesitant to participate in open discussions, preferring to learn from the instructor rather than sharing possibly erroneous opinions of fellow students" (p. 50). The non-native speakers face both a lack of language fluency and new methods of teaching. Tu stated that "when integrating CMC into an online learning environment, it is necessary to consider the student's local culture and language skill" (p. 45). On the other hand, native speakers are interacting with virtual classmates who are from different cultures and lack linguistic flexibility. The native speakers experience difficulty in understanding the non-native speakers (Johnson & Jenks, 1994). Amant (2002) believes that the

learners of this generation need specific online skills to interact efficiently with online international clients or coworkers. Saphiere (2000) encourages online designers and instructors to be mindful of the diversity in the virtual classroom and to encourage more understanding of the environment and interaction between the participants. Gunawardena and McIsaac (1996) call for future research examining the characteristics of the distance learner and cultural effects of technology. Simonson (2000) stresses that "Despite the differences, every student should have the opportunity to learn in acceptable and appropriate ways" (p. 29).

Previous studies have found that social presence in online learning has a primary effect on learning environment, learning quality and learning satisfaction (Crim, 2006; Gunawardena, 1995; Gunawardena & Zittle, 1997; Richardson & Swan, 2003; So & Brush, 2008; Teng, 2005; Tu, 2000a; Tu & McIsaac, 2002). A low level of social presence will lead to a low level of interaction (Garramone, Harris, & Anderson, 1986). On the other hand, a high level of social presence leads to a high level of intimacy (Short, Williams, & Christie, 1976). Gunawardena (1995) believed that social presence is a primary issue that improves instructional effectiveness. In this study, social presence was examined in terms of two types of communication and through the eyes of native and non-native learners. The researcher wanted to find the type of communication, synchronous or asynchronous, that promotes more social presence for both native and non-native speakers in their virtual classrooms.

Statement of the Problem

The nature of the virtual classroom has been highly affected by globalization because of its time flexibility and cost efficiency. Learners use either synchronous or asynchronous communication tools to interact with each other. In one virtual classroom, we find different students from different countries and cultures speaking different languages. Teng (2005)

encouraged more studies of the different learner behavior to face the demands of the growing global virtual classroom. Most previous studies in this field show that social presence is correlated with learner achievement (Arbaugh, 2001; Caspi & Blau, 2008; Crim, 2006; Liu, Gomez, & Yen, 2009; Russo & Benson, 2005; Swan & Shih, 2005; Wise, Chang, Duffy, & Valle, 2004), satisfaction and interaction (Crim, 2006; Gunawardena, 1995; Gunawardena & Zittle, 1997; Richardson & Swan, 2003; So & Brush, 2008; Teng, 2005; Tu, 2000a; Tu & McIsaac, 2002). Vygotsky (1978) stressed that social interaction is the stream of the learning process. He stated that: "Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people inter-psychological and then inside the child intra-psychological" (p. 57). Short et al. (1976) stated that "social presence is an important key to understanding person-to-person telecommunications" (p. 65).

Several studies have tackled the issue of synchronous and asynchronous communication in normal settings without considering diversity in the virtual classroom (Johnson, 2008; Landor-Ngemi, 2009; Skylar, 2009; Stanford, 2008). Some of the studies discussed the issues of the non-native speaker in synchronous and asynchronous communication but have concentrated only on improving English as a second language (Freiermuth, 2001; J.-Y. Lin, 2005; Shin, 2008; Yang, 2006). Teng (2005) discussed the issue of social presence in virtual classrooms through the eyes of native and non-native speakers. He found that the satisfaction of the learner regardless of being native or non-native is correlated with the social presence. Teng found that the non-native speaker feels less anxiety and more time for reflection with asynchronous communication. On the other hand, another study conducted by Lara and other researchers found that non-native teachers prefer to use synchronous interaction over the asynchronous interaction (Lara, Howell,

Dominguez, & Navarro, 2001). The contradiction in these studies encourages the researcher to focus on this area.

Purpose of the Study

Online learning is now globalized. In one virtual class, there may be users from different countries using their second language to communicate and cooperate with their virtual classmates. The purpose of this study was to find the most suitable type of communication in the virtual environment for both native and non-native graduate students. Survey research methods based on repeated measures were prepared and sent to all graduate students at Indiana State University. The researcher examined the type of communication that develops more social presence in the global virtual classrooms. The online graduate user's perception of the level of social presence in both types of communications was reflected in the repeated measure survey.

Significance of the Research

The fast development of the Internet and its open sources reshape the whole world as one virtual campus. This new virtual campus has multilanguage and multicultural obstacles (Brown & Duguid, 1996; Goodyear et al., 2001; Philip, 2004; Tu, 2001; Zhang et al., 2004). Studies have found that social presence is an important factor in the learning environment (Crim, 2006; Gunawardena, 1995; Gunawardena & Zittle, 1997; Richardson & Swan, 2003; So & Brush, 2008; Teng, 2005; Tu, 2000a; Tu & McIsaac, 2002). Also, previous studies have found difficulties for both native and non-native speakers to study together (Amant, 2002; Gunawardena & McIsaac, 1996; R. Johnson & Jenks, 1994; Nunan, 1999; Simonson, 2000; Tu, 2001). Educational institutions have moved rapidly from traditional classrooms to virtual classrooms. Hlas et al. (2008) calls for more investigation of the learner's perception of social presence in the virtual classroom before an increase of online learning. Wilson (2001) states

"With the rapidly increasing frequency of cross-cultural delivery of distance learning, this need for better understanding of the interface marks a rich area of research possibilites" (p. 62). Hiltz and Shea (2005) stated that "Although ALN is spreading around the world, there have been very few studies of cultural differences among students that may affect ALN learning" (p. 162). The researcher is interested in increasing the social presence in these virtual schools by finding the most suitable type of communication for both native and non-native learners. This study is important not only because it examines the social presence in online learning but also because it focuses on the global side of the virtual classrooms which is the future of online learning. The findings of this study will help institutions, instructional designers, and software and hardware developers to improve and concentrate on the preferable methods of communication for the global virtual institutions. This will develop a better environment towards learner satisfaction, equal learning opportunities, and quality learning.

The Research Questions and Hypotheses

Research Questions

1. Do native speakers differ significantly in social presence than non-native speakers across synchronous and asynchronous communication?

2. Does synchronous communication differ significantly from asynchronous communication on social presence for native and non-native speakers?

3. Is there a significant interaction between type of learners (native vs. non-native) and type of communication (synchronous and asynchronous)?

4. Do native speakers have more social presence than non-native speakers in asynchronous communication?

5. Do non-native speakers have more social presence than the native speakers in synchronous communication?

Hypotheses

1. There is no significant difference in social presence between native and non-native speakers across the synchronous and asynchronous communication.

2. There is no significant difference between synchronous and asynchronous communication on social presence for native and non-native speakers.

3. There is no significant interaction between the type of learners and the type of communication.

4. There is no significant difference between the native and non-native speakers toward the level of social presence in asynchronous communication.

5. There is no significant difference between the native and non-native speakers toward the level of social presence in synchronous communication.

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Limitations

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The study was surrounded by these limitations:

1. The sample was taken from one institution, so the result may not be generalized for all the institutions.

2. The sample of the non-native speakers was not able to cover all international students so the result may not be generalized for all non-native speakers.

3. There was no pre-test or pre-training for the participants so the participants may not have been aware of tools, expressions, or phrases used in the questionnaire.

Delimitations

The researcher limited the study to the graduate students to assure that they have been through, one, or more than one, online course. This helped the researcher to avoid the differences between the graduate and undergraduate perceptions. Some variables such as gender, experience, and nationality that might affect the dependent variable have been considered in the demographic part of the survey.

Assumptions

The study embedded some assumptions.

1. Participants understood the vocabulary used in the survey such as synchronous and asynchronous. These key words are explained at the beginning of each part of the survey.

2. Participants have experienced online learning.

3. Participants accurately completed out the survey.

4. The sample represented the population.

CHAPTER 2

LITERATURE REVIEW

Introduction

According to the statement of the problem, the literature review covers a brief overview of the history of distance learning, native and non-native speakers in the virtual classroom, and synchronous and asynchronous communication as the methods of interaction in online learning. The interaction types are discussed after reviewing the methods of communication. Then the review tackles the related online learning theories. Finally, social presence definition, concepts, and its relation with satisfaction, quality learning, collaboration and interaction are covered.

Preview of the History of Distance Education

Distance education started more than one century ago. It has been through five generations. In 1878, correspondence study started. It was based on the postal mail. The learners received their course materials through the mail. Then, they could complete their course work and send it back to the instructor using the postal mail.

In 1921, educational broadcasting started with the appearance of the radio and television (Moore & Kearsley, 2005). These two generations of distance learning were based on one-way communication that is asynchronous. Learners used to depend on one kind of interaction that is student and content interaction.

In 1960s, the systems approach appeared with the arrival of the University of Wisconsin's AIM Project in USA and Open University in Great Britain. This kind of learning was based on sending the printed material and audio and video taped through the postal mail and broadcasting through the radio, television and telephone conferences (Moore & Kearsley, 2005). This generation featured more interaction. Evans and Nation (2003) declared that "The emergence and success of the British Open University in the 1970s signaled that distance education could hold a preeminent place in higher education nationally and internationally" (p. 789).

The fourth generation was based on the teleconferencing technology that appeared in the United States in the 1980s. One-way video and two-way audio communications were used at this stage. In the 1990s, two-way video-conferencing was used broadly to enhance live interaction in distance learning. This generation featured three types of interactions. The three types of interactions are learner-content interaction, learner-instructor interaction, and learner-learner interaction. These three types of interaction are believed to develop effective teaching (Moore & Kearsley, 2005). The latter two generations were characterized by using both methods of communication, synchronous and asynchronous.

In 1992, online virtual classes started. This is considered the fastest growing method of education. This generation created more chances for interaction and collaboration in the learning process (Moore & Kearsley, 2005). The first four generations represent distance education. The last one represents both online learning and distance education. In fact, online learning is the digital baby of distance learning. Hlas et al. (2008), Teng (2005) and Tu (2001) confirm that online learning which is the fifth and current generation of distance learning encourages globalization which in turn pushes researchers to carry out more studies in this field (Hlas et al.,

2008; Teng, 2005; Tu, 2001). This generation of distance learning with its interactive tools

wisely cultivated social learning that contributed to the development of online learning (Birdsall,

2007; Brown & Adler, 2008; Dieberger, 1997; Mason & Rennie, 2007; Vivitsou, Lambropoulos,

Konetas, Paraskevas, & Grigoropoulos, 2008).

Native and Non-native Speakers

Diversity in Virtual World and American Education

Distance education is growing fast multiculturally. Online learning can be a borderless

virtual university (T. Bates, 2001; Evans, Haughey, & Murphy, 2008; Lynch, 2004; Moore,

2006). Moore (2006) reported "We hear more often than before about the growth, and the

expectations of further growth, in distance teaching and learning across national borders" (p. 1).

Levine (2000) notes that the range of providers of higher education will become wider and more

diverse. The rise of the new technology will encourage the increase of global universities and

give every person an educational passport. Technology evolution and the inclusion of education

in the General Agreement on Trade in Services has led to higher education being more

globalized and marketed (Ryan, 2008). Sanchez and Gunawardena (1998) stated that "anecdotal

reports suggest that the use of instructional technologies that enable teaching and learning at

distance has further diversified higher education by increasing access to a wide variety of

cultural groups" (p. 60). Lynch (2004) asserted that online learning supports international

collaboration. Evans et al. (2008) believe that the one laptop per child project will increase the

revolution of online learning. Ryan (2008) believes that the increased enrollment of international

students leads to internationalization of higher education. Sanchez and Gunawardena believe that

higher education is increasingly turning diverse. They state that "the United States has been

home to many people with diverse cultural and ethnic backgrounds for centuries" (1998, p. 47).

The Apollo Group (2009) reported that 48% of the students at the University of Phoenix are an ethnic minority.

Furthermore, the United States represents one of the largest diversified countries in the world (Cheng, 1987; Hiltz & Shea, 2005; Rogers & Steinfatt, 1999; Sanchez & Gunawarden, 1998). In 1987, Cheng reported "There are more than 500 cultures in the United States. In the southwest alone, there are more than 50 culturally and linguistically diverse societies. In the Los Angeles County area, speech-language services are provided to 88 different languages groups" (1987, p. 5). Hiltz and Shea stated that universities in the United States hold huge numbers of students who come from different countries and cultures. Rogers and Steinfatt (1999) stressed that immigrants in the United States keep on using their mother tongue and teaching their childern their cultures.

The English language is the primary language of the virtual world (Bates, 2001; InternetWorldStats, 2009). The educational institutions in the United States, Canada, Britain, and Australia noticed the expansion of online learning in foreign countries and developed distance education programs to cross national borders (Bates, 2001). The English language is the most dominant language in the World Wide Web. "English (or perhaps the more accurately American) is at the moment by far and away the most predominant language in terms of international delivery of distance education" (Bates, 2001, p. 128). Internet World Stats reported that the English language is the leading language in the World Wide Web. It represents 39.9% of the languages used on the internet (InternetWorldStats, 2009).

Equality in the Multicultural Virtual Learning

Equality is the key success factor to online learning. The targeted learners for virtual learning have different cultures, languages, and learning styles that should be considered in the

design and instructional process. Online learning is not only designed for local culture but global users also have to be considered (Brey, 2006; Gunawardena, 2003; Rogers, 1995; Ryan, 2008; Simonson, 1999, 2000). Simonson (2000) encourages using different strategies in both face-to-face and online learning but stresses on providing "equivalent learning experience for each learner" (p. 29). Brey (2006) argues that higher education is supposed to provide fair and equal education for online learners. The educators should consider diversity in the virtual classroom. While discussing values of higher education, Clark (1983) stated that there should be equal opportunity for the learners in order to have quality learning. Brey asked "what opportunities or challenges "virtual" universities offer or pose for equal access to higher education, equal opportunity within the education system, and equality in outcome for students" (p. 94). Simonson (1999) stated "equivalency theory provides a framework for design and production of instructional experience for local and distance learners that need not to be the same. The key will be whether equivalent experiences produce equivalent outcomes." (p. 8)

Rogers (1995) asserted that the adoption of technology fails because the diffusion process neglects the cultural side of the user. The technology adoption rate of innovations depends on its compatibility with the values, beliefs, and past experiences of the learners. Gunawardena (2003) assured that adoption and diffusion theory is a critical issue for institutions who offer online courses to pay special attention while dealing with learners from different languages and cultures.

Ryan (2008) mentions some models of borderless education such as the University of Phoenix. The University of Phoenix (2008) pays special attention to diversified educational settings in both virtual and traditional classes. Ryan stressed that the University of Phoenix is 30 years old but it has challenged through marketing other high-profile institutions. Ryan argues

that "Only when the University of Phoenix had perfected its mass market model did it expand into the distance market" (p. 753). In 2009, the University of Phoenix enrollment increased 21% over the year 2008 (Apollo Group, 2009).

Native and Non-native Speakers' Difficulties in the Virtual World

Online learners represent multiple cultures and speak different languages. Virtual learners have been accustomed to different environments and different learning styles. As a result of that, there are some obstacles learners encounter when interacting with each other. Language management represents the critical factor in achievement in online learning (Brancden & Lambert, 1999; Gunawardena, 2003; Gunawardena & LaPointe, 2008; Hlas, et al., 2008; Pastoor, 2005; Rogers & Steinfatt, 1999; Sanchez & Gunawarden, 1998). Gunawardena and LaPointe (2008) believe that cultural issues are critical factors in international distance education. They state "self-awareness of cultural perspectives and biases is key to designing learning for another" (2008, p. 25). Brancden and Lambert (1999) say that the instructor and course designer who lack experience with adult learners often ignore the social and cultural background of the learners. Sanchez and Gunawardena (1998) note that the difficult part is to find cultural differences and start designing online learning that cultivate the learning process.

Lewis (2003) asserts that cultural differences may lengthen, delay or hinder the learning process. Smith (2005) found that ignoring learners who use English as a second language and their cultural differnces may limit the chances for the learner to interact. Pastoor (2005) argues that the non-native speakers must be aware of classroom environments and rules to interact effectively.

The language ability is the primary issue that limits the interaction and participation of non-native speakers (Biesenbach-Lucas, 2003; Biesenbach-Lucas & Weasenforth, 2002; Chen,

1999; Cheng, 1990; Goodfellow, Lea, Gonzalez, & Mason, 2001; Pincas, 2001; Whorf, 1998).

Brancden and Lambert (1999), based on the 1998 Lambert article, note that most of the

international conferences in distance education have reported that language is the most

complicated factor in the multicultural virtual classroom. Gunawardena et al. (2003) and Rogers

and Steinfatt (1999) found that there is an influence of language as part of the cultural

identification. Language influences the learner's cognition and thinking style (Pincas, 2001).

Whorf (1998) believes that language shapes the attitude and thinking of the learner. Brancden

and Lambert stated "Language is one of the most important determining factors, if not the only

determining factor, of cultural diversity" (1999, p. 176). Hlas et al. (2008) conducted a study

comparing between both native and non-native speakers in both F2F and online learning. The

study suggested that the learner's native language is an issue that should be considered in all

learning contexts, F2F and online learning.

Branden and Lambert (1999) conclude that "language and other aspects that are typically

considered as culture bound, such as (differences in) prior knowledge, cultural subjects, attitudes

towards culturally embedded topics, discussion and learning styles, and so forth, remain barriers

to transnational educational networks" (pp. 201-202). Biesenbach-Lucas and Weasenforth (2002)

note that the non-native speakers find language difficulties in using e mail to communicate with

their instructor. Their language abilities limit their understanding of given tasks. This lack of

language ability limits non-native speakers' participation in the virtual classrooms. Chen (1999)

reported that the language capacity of non-native speakers limits their responses in online

learning to short sentences. Goodfellow et al. (2001) found that non-native speakers believe that

their lack of language proficiency restricts their ability to respond reflectively and timely.

Gunawardena and LaPointe affirmed that "Using English to learn rather one's native language puts learners at a disadvantage" (2008, p. 64). They note that the Arab and Asian learners, using English to communicate with other learners, spent more effort and time in finding the letters on the keyboard and using the online dictionary to check words. Bates (2001) and Pincas (2001) found that both native and non-native speakers have writing difficulties in online learning. It was more difficult for non-native speakers due to their lack of language ability.

Non-native speakers reveal that using the second language to commuicate with others is a major obstacle that limits their classroom participation. They are afraid of making mistakes or being misinterpreted (Briguglio, 2000; Ladd & Ruby Jr, 1999; Tompson & Tompson, 1996). Brancden and Lambert (1999) argue optimistically that the language issue cannot be solved completely but it can be managed to decrease its negative effect. Also, they argue that diversity and cultural differences can be used positively by learners to learn about each other.

It is hard for the non-native speakers to adapt to social networks. They are prone to the fear of not being accepted by others. This stage of anxiety may negatively effect the non-native participation (Lin & Yi, 1997; Tompson & Tompson, 1996). Lynch (2004) notes that in online learning the native speakers should use plain language and avoid using jargon or colloqialism to prevent misunderstanding or confusion for the non-native speakers.

Lynch (2004) expects native speakers to encourage and support the non-native speaker in their posts. Lynch brings positive examples of both non-native speaker's first post and native speaker's mindful responses:

Non-native speaker's first post

Please forgive my writing to this board. My native language is Spanish and thus it is difficult for me. It took me houres to get here! I am worry my expressions are not clear

and maybe foolish. But my bigger wish to share my ideas makes me not regret a post. If something is not clear, people must ask me for clearafication. It helps me sort out my own mind but as well. I even improve my english along the board. (pp. 173-174)

Native-speaker's mindful reply

I find your first post to be clear and to the point. I admire that you can write English so well. I must admit that my spanish capabilities are limited to "buenos," "buenos noches," and "gracias." So you are already far a head of me in your language abilities. Please do contribute frequently and don't worry about your skill. I for one promise to ask for clarification if you are unclear. (p. 174)

Native speakers may not be able to communicate freely with non-native speakers and vice versa (Brancden & Lambert, 1999; Rogers & Steinfatt, 1999). Brancden and Lambert (1999) assert that learners prefer to communicate with those who share the same language, belief, values and culture. Rogers and Steinfatt (1999) believe that learners who speak the same language have a close cultural relationship. Language heavily influences intercultural communication.

According to Dunn and Griggs (1995) each cultural group has its own learning styles. The learning process and learning outcomes are influnced by the culture. They conducted a study and found out that there is a significant difference between the learning styles of the Native American learners and other ethnic groups.

Hall and Hall (1990) assure that there are two communication contexts. The first one is high context in which participants communicate around the topic. In this context the learner is a receiver. The participants such as the Asian students carry the meaning through context rather than linguistics. The second one is low context in which the participants embed the meaning in

linguistics rather than in context. The participants, such as the American learners speak directly to the point. The learning in low context is student-centered. The researchers believe that online learning is text based where the meaning is carried by the language not the context. Non-native speakers who are used to the high context environment will find difficulties in participating. Morse (2003) conducted a study to find the effect of low context and high context environments on the learning process. He concluded that the learner is affected by the learning context. The high cultural context learners face linguistic and cultural obstacles in using English as a communication tool in online learning.

Morse (2003) investigated online learners of both high-context culture represented by non-native speakers and low-context culture represented by native English speakers. He concluded that the learning styles are affected by the learner's culture. Language background has a great effect on the learner interaction in online learning. In online learning, the high-context learners, non-native speakers, will be linguistically and culturaly confronted by an English language that is based on low-context culture.

Nisbett, Peng, Choi and Norenzayan (2001) argued that two cultures, Americans and Asians, organize and process information in a different way. They found that Asians are holistic, paying relatively little attention to logic, while the Westerners tend to be analytical, using formal logic. In another research focusing on cognitive and sociolinguistic sides, Tharp (1989) assured that "Cultural groups that do not emphasize verbal/analytic problem solving are handicapped in school because teachers rely so heavily on verbal/analytic methods and verbal forms of instruction" (p. 355).

These new learning styles and classroom environments that non-native speakers have not experienced before will negatively influence the achievement and participation of the learners in

the future (Briguglio, 2000; Cheng, 1987, 1990; Lin & Yi, 1997; Penner, 1995). Cheng (1990) found that the non-native English speakers are accustomed to copy and memorize in order to prepare for examinations. In contrast, American learners participate and interact informally with peers and instructors. The non-native English speaker will not be able to participate and interact easily in the new cultural context of online learning. Cheng (1987) and Briguglio (2000) reported that Asian learners are used to receiving information from their instructors, while the American educational system promotes creativity, problem-solving, and critical evaluation. As a result of that, non-native speakers face obstacles to adapt to the new style of learning that encourage them to be creative and reflective instead of being a receiver and follower.

The educational systems in Asian countries represent the instructor as the source of information that cannot be questioned or discussed. Asian cultures encourage learners to highly respect instructors and discourage learners from sharing their ideas with others. The learners who are accustomed to Asian culture will find difficulty in adapting to the American culture (Briguglio, 2000; Lin & Yi, 1997; Penner, 1995). Gunawardena (1998) assured that "Moving from teacher-centered learning environments to learner-centered collaborative learning will be a challenge to both teachers and students in the Asian cultural context" (1p. 107).

Sanchez and Gunawardena (1998) conducted a study to find the influence of culture on learning. They found that the Hispanic adult learners prefer to use collaborative learning over competitive learning. Al-harthi (2005) conducted a study that assured the importance of considering learners' cultural issues in designing learning experiences. Bates (2001) and Wilson (2001) noticed that some cultures, such as the Taiwanese culture that is based on respecting the teacher, prevent the learners in participating in both F2F and online learning.

Flowerdew and Miller (1995) administered a three-year ethnographic study into academic lectures comparing the effects of the American and Chinese values on the academic classes. They pointed out that the Confucian values respect the lecturer and that s/he shoud not be questioned. On the other hand, the Westerner values the lecturer as a facilitator who is open to challenge and questioning. Flowerdew and Miller found that the Confucian values encourage effacement and silence, while the Western values encourage self-expression of ideas. Flowerdew and Miller pointed out that the Western values stress individual development and creativity in the learning process. On the other hand, the Confucian values stress group orientation in the learning process.

Based on the sudies of Flowerdew and Miller (1995), Tharp (1989) and Nisbett et al. (2001), Wilson (2001) stressed that the instructors and instructional designers who deal with cross-cultural environments such as online learning should "increase their knowledge of the target learners" (p. 62). He added "Designers of online learning environments may even find it necessary to provide activities to teach and develop specific cognitive processes if they are necessary to course content. The nature of learner motivation should be also considered in this vein" (2001, p. 62).

Online Learning Support Both Native and Non-Native Speakers

The participation in virtual learning is more focused and more reflective than in traditional classrooms. Non-native speakers find more chances to interact and share ideas in virtual classrooms than in F2F classrooms (Freiermuth, 2001; Gunawardena & LaPointe, 2008; Hlas et al., 2008; Sullivan & Pratt, 1996). Gunawardena and LaPointe (2008) believe that today both online learning and face to face contexts are more diversified. Sullivan and Pratt (1996) declare that online learners zoom in on their tasks more than traditional learners. Hlas et al.

(2008) argues that both native and non-native speakers are supported equally in the virtual learning environment, more than in the F2F.

Hlas et al. (2008) conducted a study to compare native and non-native speakers in both face to face and online learning. The study shows that native speakers have more input than non-native speakers in traditional classrooms. On the other hand, Hlas et al. found that both native and non-native speakers find more, better, and equal chances to interact in online learning. In traditional classrooms, native speakers and teachers take the lead while in online learning non-native speakers find a fair environment in which to participate. In virtual learning, non-native speakers find enough time to read and digest the contents. This helps non-native speakers to engage and interact with their peers with more self-confidence. Hlas et al. believe that native speakers find more support in online learning. They concluded that "we were heartened that at least the online environment leveled the playing field for both learner types" (p. 370).

Sullivan and Pratt (1996) carried out a study to measure writing skills of non-native speakers in both online learning and F2F. They found that during the group sessions there were more comments in F2F but more focused comments in online learning. Online discussion minimized the teacher's participation and maximized the learner's inputs. In online learning, the instructor got 15% of contributions compared to 65% of inputs in F2F learning. Sullivan and Pratt concluded that there is a positive effect of online learning on student writing.

Freiermuth (2001) administered a study to both native and non-native speakers to find out who has the floor in online learning and F2F learning. He notes that the research proved that a hesitant online learner finds a better chance to interact with others. In online learning, non-native speakers feel more comfortable interacting with each other. In virtual learning, non-native learners do not have to worry about making errors in pronunciation or spelling. This gives the

learners more time to concentrate on the task instead of concentrating on linguistics issues. In traditional conversation, non-native speakers feel that they are not professional enough to interact with native speakers. The researcher concluded that non-native speakers in American universities find more chances to contribute in online learning than in traditional classrooms. Freiermuth declares that "CMC offers teachers a viable option to get both sides chatting" (p. 195).

Online Learning Improves Non-Native Speaker Target Language

A non-native speaker finds online learning to be more comfortable and enthusiastic than mainstream learning. Interaction in virtual learning boosts the skills of the target language for non-native speakers. Both types of learners find themselves obliged to participate in online learning (Al-harthi, 2005; Biesenbach-Lucas, 2003; Hlas et al., 2008; Picciano, 2002; Pratt, 2005; Robbins et al., 2002; Warschauer, 1996). Some studies reveal that authentic interaction in online learing enhances the self-confidence of non-native speakers to use the target language smoothly (Al-Jarf, 2002; Belcher, 1999; Freiermuth, 2001; Kern, 1995; Kitade, 2000; Stagg Peterson & Slotta, 2009; Ware, 2004).

Al-harthi (2005) conducted a study to examine the experiences of Arab students who have been through distance higher education experiences in the United States. She found that the lack of physical presence in the online environment to be a positive aspect that supports the learner to be rid of social embarrassment. Robbins et al. (2002) conducted a study to find the influence of online communication on the learning performance of the international students. They found that online communication increases the quality and frequency of communication and increase the students' confidence by providing alternative methods of communications. Pratt (2005) states that "Second language students who were not confident about their use of

English might feel more at ease communicating via email or discussions" (p. 101). Fitze (2006) conducted a study to compare the performance of non-native speakers in face to face and online learning. The researcher concludes that the performance of non-native speakers in online learning is better than F2F learning. Belcher (1999) believes that online commuication helps non-native speakers to learn and practice the second language by communicating with native speakers. Virtual communication with English native speakers create authentic learning for non-native speakers to learn English language.

Biesenbach-Lucas (2003) carried out a study to find out the perception of native and non-native speakers towards online learning and F2F learning. Native and non-native speakers reported that group tasks help them to create social relationships and understand other cultures. In online learning, non-native speakers find more room to share and lead discussions. The posting and discussion in online learning helps non-native speakers to develop their English during the course. The academic language of both types of learners has been improved as a result of their regular contribution online. The researcher notes that non-native speakers prefer to interact with native speakers to improve their target languages.

Warschauer (1996) states that "one of the supposed benefits of computer-mediated communication is that it can result in more equal participation among students by comparing face-to-face and electronic discussion" (p. 7). Warschauer conducted a study comparing between two groups of ESL students using both online and face to face to communicate with each other. The researcher found that online communication gives the learners more equal chances to communicate. Kamhi-Stein (2000) and Nunan (1999) found that virtual interaction supports both native and non-native speakers in participating and supporting authentic conversation.

Zhang, Gao, Ring and Zhang (2007) carried out research to find the effects of online discussion forums on learners' performances in reading, grammar, vocabulary, writing and critical thinking in English as non-native speakers. The researchers found that online discussion forums have improved the learners' writing skills and critical thinking.

Al-Jarf (2002) wanted to find the influence of using online learning on the writing of ESL learners. The control group consisted of 51 learners who enrolled in Fall 2000 and the experimental group consisted of 62 learners who enrolled in Spring 2001. The experimental group used the internet to interact and write while the traditional group used the traditional classroom to write and interact with each other. "The experimental group made more gains as a result of web-based instruction. They became more proficient, made few errors and could communicate easily and fluently" (p. 2)

Dekhinet (2008) examined the effect of corrective feedback from native speakers to non-native speakers. The results show significant effects of the virtual peer tutoring. The non-native speakers shared and interacted actively in the learning process. However, they did not initiate interaction as the researcher expected.

LaPointe and Barrett (2005) conducted a study to find the perception of the Taiwanese and Mainland China learners towards using English as a second language. Their fear of making mistakes and their unawareness of the topic prevents them from participating and speaking with native speakers. Online learning provides them with a safe floor to interact with each other for two reasons: first, they will have more time to read and prepare for the discussion, and second, they report that they can speak when they cannot see others.

Cifuentes and Shih (2001) conducted a study to examine virtual cross-cultural collaboration. There were 37 American students prepared to teach in secondary schools and 35

Taiwanese university students studying English language literature. There were two researchers representing both cultures. Both native and non-native speakers reported their positive experiences of online interaction with each other. Both parties reported the benefits of having the opportunity to exchange cultures. The native speakers experienced real responsibility toward the need of the individual learner. The Taiwanese learners valued the chance of going through authentic learning with native speakers.

Synchronous and Asynchronous Communication

According to Gunawardena (2003), learners in the virtual learning environment use either synchronous or asynchronous formats. Synchronous (real time) and asynchronous (delayed time) discussions are the two formats of communication in online learning. Synchronous discussion can be accomplished through chat rooms and video conferencing while asynchronous discussion can be performed by using email and discussion boards. Stephens and Mottet (2008) believe that the internet with its advanced tools helps the learner access online learning and actively interact synchronously or asynchronously from everywhere and at any time. Volet and Wosnitza (2004) found that both types of communication cultivate social interaction and quality of learning. Synchronous communication creates more discussion while asynchronous communication encourages reflective and critical posts (Abrams, 2003; Pérez, 2003; Schwienhorst, 2003). Kanuka, Collett, and Caswell (2002) state that university instructors believe both synchronous and asynchronous communications support instructors to use the instructional strategies that are used in the traditional classroom.

Asynchronous learning gives the participants the freedom to schedule their own time to interact with the other party. Asynchronous communication is delayed communications. The participants do not communicate in real time. The participants meet each other virtually any time

and anywhere. Some examples of asynchronous tools are: discussion board, podcasting, e-mails, blogs, and slideshow presentations. This kind of communication is characterized by time and place flexibility.

Synchronous communication is a virtual classroom. It represents traditional learning but with the use of technology. Synchronous learning stands for the interaction between the online participants when they interact in real time but not in the same place. The participants are required to interact with each other at the same time in this kind of communication. For example, the participants may communicate with each other by using telephone conversation, chat rooms, instant messages, and video or audio conferencing. Thirty-one percent of the institutions that offer online learning report offering courses using a synchronous design (NCES, 2008).

There is no clear distinction between synchronous and asynchronous communication in terms of learner satisfaction (Davidson-Shivers, Muilenburg, & Tanner, 2001; Shapira & Youtie, 2001; Volet & Wosnitza, 2004). Davidson-Shivers et al. (2001) conducted a study to investigate the participation of 14 graduate students in synchronous and asynchronous communication. The researchers concluded that both types of communication are practical and should be considered. Johnson (2008) conducted a study to evaluate the effect of both synchronous and asynchronous communication in the learning process. He found no significant difference in students' achievement.

Sproull and Kiesler (1995) believe that synchronous and asynchronous discussions develop more quality outcome than face-to-face (F2F) discussions. Harasim (1999) found that instructors contribute 80% to F2F discussion while in online discussions learners contribute 85%. On the other hand, Hirotani (2005) conducted a study to find the effect of F2F, synchronous and asynchronous communication for learners of Japanese language. The F2F

group gained significantly higher learning achievements than groups in synchronous and asynchronous communication.

Learning habits shape the different opinions towards selecting types of communication (Clouse, 2001; Ruth, Kelly, & Avner, 2005). Learners who believe positively in interaction prefer to use synchronous communication over asynchronous communication (Ruth et al., 2005). Lin (2004) performed a study to find out the outcome of giving the learners the option to communicate synchronously or asynchronously. The researcher found that giving the learners the option to pick the type of discussion increased the learner's satisfaction and cognitive achievement. It is recommended to integrate both synchronous and asynchronous communication in the learning process to increase the quality of learning and approval of learners (Ligorio, 2001; Ohlund, Yu, Jannasch-Pennell, & DiGangi, 2000).

Asynchronous Communication

Ninety-two percent of the institutions that presented online classes through 2006-2007 reported using asynchronous communication (NCES, 2008). Rovy and Christopher (2001) conducted a study that showed that 65% of educators want to do more asynchronous communication. This group of educators believed that asynchronous communication creates more depth and reflection in the discussion. The researchers recommend using teamwork and providing general feedback while using asynchronous communication. Walker and Arnold (2004) carried out a study to evaluate the effectiveness of asynchronous communication in a business class. More than 60% of the learners reported that the asynchronous method is an effective approach to learning. Järvelä and Häkkinen (2002) conducted a study to examine the value of asynchronous communication in online learning for pre-service teachers. The researchers found that high quality and growing interaction dominated 64% of the discussion.

Some studies reveal that asynchronous discussion encourages reflective discussion by giving the learners more time (Hlas et al., 2008; Hrastinski, 2008; Jaeger, 1995; Knapczyk, Frey, & Wall-Marencik, 2005; Meyer, 2003; Petrides, 2002; Poole, 2000; Rovy & Christopher, 2001; Zafeiriou, Nunes, & Ford, 2001). According to Hlsa et al. (2008) asynchronous discussion gives the non-native speaker more time to read and reflect. It reduces the anxiety of imperfect language skills. Jaeger (1995) found that asynchronous communication encourages quality of learning, reflective posting and critical thinking. Knapczyk et al. (2005) assures that the flexibility of asynchronous learning gives the students the freedom to work anytime at their own pace. It boosts interaction and collaboration in the learning process. It gives learners enough time to read and reflect. Hrastinski (2008) reveals that asynchronous discussion gives the learners the ability to work at their own pace. It gives the learners more time to read and reflect. Petrides (2002) found that distance online communication gives the learners more time to think and reflect. Rovy and Christopher (2001) feel that an asynchronous format can be used to support deep thinking and reflection. It gives the learners more chances to interact and participate.

Other researchers confirm that asynchronous discussion has better consequences than F2F (Bates, 1997; Johnson, Howell, & Code, 2005; Koory, 2003; Mazur, 2004; Meyer, 2003; Rovy & Christopher, 2001; Wang, 2004). Meyer (2003) conducted a study comparing asynchronous discussion and F2F discussion. The researcher found that graduate students using asynchronous communication spent more time on class objectives than they did in traditional discussions. Learners reported they had more time to read and reflect in asynchronous discussion than in F2F. Meyer (2003) examined the learners' experiences in both F2F discussion and asynchronous discussion. The learners reported asynchronous discussion gave them more time to read and reflect but it was not as energetic and as immediate as F2F discussion. The researcher

concluded that the online discussion improved higher order thinking and promoted more reading

and high reflection. Bates (1997) compared traditional learning and online learning. The

researcher believes that asynchronous communication encourages two-way interaction and it is

more convenient for the participants in terms of time, place and cost. Mazur (2004) argues that

online communication gives more chances for every participant to contribute without

interruption. Rovy and Christopher (2001) found online discussion encourages diversity and help

the learners to go over the discussion again and again. Fisher (2000) believes that F2F classes

can be assisted by using asynchronous discussion outside of the classroom discussion time.

Knapczyk et al. (2005) suggest that asynchronous discussion can be used as an extra activity to

F2F discussion. Wu and Hiltz (2004) investigated the learning quality of a mixed method that

incorporates both F2F and asynchronous communication. The study shows that asynchronous

discussion positively affected the learning outcomes in the mixed method mode.

On the other hand, in 1999, Ocker and Yaverbaum conducted a study comparing both

F2F and asynchronous collaborative work. The researchers concluded that there was no

significant difference between the two groups in the quality of learning. But there was a

significant difference in student satisfaction. Students preferred to use the F2F collaboration. The

researchers believed that the learner's ability to use technology may be the cause behind

student's satisfaction. Sain and Brigham (2003) conducted an experiment to measure the level of

satisfaction and achievement of traditional learning and threaded discussion. The researcher

concluded that the achievement and satisfaction of the traditional learning group was

significantly higher than the online learning group.

Some studies that compared synchronous and asynchronous discussion showed the

superiority of asynchronous discussion over the synchronous discussion (Hirotani, 2005;

Johnson & Buck, 2007; Mabrito, 2006; Schwienhorst, 2003; Wright, Marsh, & Miller, 2000).

Wright et al. (2000) found that the learning achievement of asynchronous learners is higher than

for synchronous learners. Moreover, asynchronous learners were more interactive in using

technology. Johnson and Buck (2007) found that students who used asynchronous discussion

tackled more issues than students in synchronous discussion. Hirotani (2005) conducted a study

to find the effect of F2F, synchronous and asynchronous communication for the learners of the

Japanese language. The asynchronous learners performed more syntactic complexity than the

synchronous and F2F groups. However, there was a significant gain in the learning outcomes for

the F2F group over the asynchronous and synchronous communicators and the synchronous

group showed their satisfaction with this type of communication. Schwienhorst (2003) conducted

a study to compare synchronous and asynchronous communication in terms of supporting second

language learners. The researcher found that the asynchronous communication helped the

learners to focus on tasks more than with the synchronous method. Mabrito (2006) says that

asynchronous discussion is found to be more focused, effective and reflective while synchronous

discussion is more productive. According to Gunawardena (2003), asynchronus discussion is the

most commmon format but the participants miss the immediate feed-back.

Giving learners the chance to pick the format of discussion is a topic that has been

tackled by some researchers (Clouse, 2001; Davidson-Shivers, et al., 2001; Poole, 2000; Ruth et

al., 2005). Poole (2000) found that when giving the learners the chance to pick the type of

communication, they prefer to use asynchronous discussion over synchronous discussion.

Davidson-Shivers et al. (2001) found that learners preferred using asynchronous discussion over

synchronous discussion. Around 70% of the learners prefer to use asynchronous communication

over the synchronous communication (Ruth, et al., 2005). Poole (2000) found that learners

choose to use asynchronous discussion in order to have more time for critical reading and reflective posting. On the other hand, Clouse (2001) found that learners prefer to use traditional synchronous over the asynchronous communication. Johnson and Buck (2007) state that social learners prefer to use synchronous formats. Some researchers compared the effects of optional and required posts in asynchronous discussion. Kear (2004) found that around 79% of the learners report their benefits and satisfaction from required asynchronous conferencing. In another study, Johnson and Howell (2005) compared the learners using asynchronous discussion optionally and learners who were required to use asynchronous discussion. They conclude that the learners who were required to use asynchronous learning had greater achievement. Picciano (2002) performed a study to measure the quality and quantity of asynchronous communication from the perspective of the learners and to measure their performance. The researcher found a significant relationship between the learners' performance and their perception of asynchronous learning.

The weakness of asynchronous discussion has been explored by some researchers (Aviv, Erlich, Ravid, & Geva, 2003; Clouse, 2001; Rovy & Christopher, 2001). The educators list the weakness of asynchronous communication such as the lack of instance response, the lack of checking frequently, the consumption of time to discuss an issue, and the feeling of being isolated (Rovy & Christopher, 2001). Clouse (2001) stated that "students felt 'disconnected' from asynchronous discussions" (p. ii). Aviv et al. (2003) conducted a study to find the effectiveness between the well-structured and non-structured asynchronous discussion methods. The researchers conclude that well-designed asynchronous united groups and encouraged critical thinking while non-constructed discussions encouraged low cooperative working environments and low cognitive activities.

Synchronous Communication

Some researchers found that synchronous discussion is an effective method and has its

own superiority (Abrams, 2003; Burnett, 2003; Dickey, 2003; Gambino, 2006; Mabrito, 2006;

Rovy & Christopher, 2001; Skylar, 2009). It is worth mentioning that most of these studies

concentrated on the chat side more than video and audio conferencing. Shotsberger (2000) found

that synchronous chat can be used not only as a social interaction channel but is also effective

for educational purposes. Burnett (2003) believes that synchronous communication is an

effective method of communication in the learning field but it has not been used effectively. The

researcher conducted a study to examine the effect of synchronous chat in the learning process.

Burnett conducted a study evaluating synchronous chat. He states that "This study demonstrates

that it is possible for tutors to address social, organizational and intellectual aspects of discussion

through online chat" (p. 258). Abrams (2003) compared the effectiveness of asynchronous,

synchronous and F2F communication in the learning process. The researcher found that

synchronous communication increased the production quantity among participants. There were

no significant differences between the three types of communication in terms of quality.

Burnett (2003) found that synchronous learning is still superior to F2F. It helps learners

who are shy or have low self confidence to concentrate on their tasks. Gambino (2006) believes

that synchronous discussion and its advanced technology such as high-speed Internet access

encourages the instructor to apply the main principles for effective practice in online learning.

Mabrito (2006) believes that synchronous communication may better represent traditional

classrooms since it takes place at the same time; however, it lacks the body language and social

cues of a traditional classroom. Mabrito examined two groups of business learners while using

synchronous and asynchronous communication. The researcher concluded that learners spent

more time using synchronous communication. The learners showed positive attitudes towards synchronous communication over the asynchronous communication. Rovy and Christopher (2001) conducted a study to explore the factors that urge educators to use either synchronous or asynchronous communication. They found that the synchronous method is used with virtual office working hours, group discussion, social relation, and brainstorming. The researchers confirmed that 35% of educators want to do more synchronous teaching. The researcher recommended the use of synchronus discussions with small groups.

A number of studies showed the favor of synchronous discussion over asynchronous discussion (Burnett, 2003; Johnson & Howell, 2006; Poole, 2000; Skylar, 2009). Skylar (2009) conducted a study to inspect both synchronous and asynchronous discussion. The researcher evaluated learners' satisfaction and performance in both types. The two formats of communications were found to be effective in delivering online education. Seventy-five percent of the learners reported that they prefer to take synchronous instruction over asynchronous instruction. Poole (2000) believes that when the learners need immediate feedback and have the option to pick discussion formats, they will select the sycnronous discussion. Burnett (2003) states that synchronous discussion gives the participants the opportunity to interact at the same time in order to get immediate feedback. Johnson and Howell (2006) conducted a study to find out the differences between synchronous learning and asynchronous learning. They believe that both synchronous and asynchronous communication help in the learning process. They think asynchronous communication encourages higher levels of thinking and reflection because it gives the learners more time to read and think. They conclude that synchronous communication encourages and develops potential learning enhancement.

Some studies have evaluated the effectiveness of synchronous discussion for non-native speakers (Aoki, 1995; Hirotani, 2005; Lara et al., 2001; Pérez, 2003). Lara et al. (2001) carried out a study to examine the perception of non-native speakers, Hispanics, toward the use of synchronous and asynchronous discussion with peers. The researchers analyzed both quantitative and qualitative data to find out the views of participants. The researchers conclude that synchronous communication leads to more successful interactions for Hispanic students. Hirotani (2005) conducted a study to find the effect of F2F, synchronous and asynchronous communication for the learners of the Japanese language. The synchronous learners reported that they liked to use synchronous communication. Pérez (2003) performed a study to investigate synchronous and asynchronous communication and find which method helped second language learners to increase their language practice. The researcher found that synchronous communication helped in producing more words than asynchronous communication but there were no significant differences between the two methods in producing new words. On the other hand, Aoki (1995) confirms that second language learners find difficulty in using synchronous communication. They don't find time for reflection but instead are busy with their language and typing skills.

Other studies explored the limitations of synchronous discussion (Jolliffe, Ritter, & Stevens, 2001; Murphy & Collins, 1997; Rovy & Christopher, 2001). Rovy and Christopher (2001) examined the disadvantages of synchronous discussion. Instructors listed some drawbacks of synchronous communication such as the struggle to schedule time for all participants, the complexity to manage discussion of high numbers of students, the lack of time for reflective posts, and anxiety over keyboard skills. Jolliffe et al. (2001) explored the limitation of synchronous discussion. They found that it is hard to use it with large numbers of participants.

The instructor will find difficulty with technology adjustments and participant management. Murphy and Collins (1997) state that there are difficulties with large numbers in synchronous communication such as matching typing skills and finding suitable scheduled times for everyone. It may also limit the cognitive processing of the learners. Clouse (2001) believes that synchronous chat sessions need direction to be more focused and more effective.

Interaction in Online Learning

Moore and Kearsley (2005) state that the current generation (fifth generation) of distance learning is characterized by high levels of interaction cultivated by highly developed technology. According to Tu and McIsaac (2002), Gunawardena and Zittle (1997), and Richardson and Swan (2003), there is a strong relationship between interaction and social presence. Gunawardena (1995) believed that there will be no learning without interaction. Vygotsky (1978) highlighted that social interaction is an essential issue in the development of learning. Skylar (2009) argued that the interactive interaction in online learning will affect the learner's satisfaction. The work of Kamhi-Stein (2000) and Nunan (1999) shows that virtual interactions promote authentic discussion for both first and second language speakers.

Fung (2004) conducted two studies to find out the reasons behind the low level of interaction in online learning. The researcher found that the skill to access to the computer was not a significant reason for the low level of interaction in online learning. Lack of time and learners' preference for consuming time in online reading were the main causes of the low level of interaction. Also, the researcher found that peers affected each other in the level and quality of interaction.

Online learners report that online interaction helps them to gain confidence and encourage their perception of self-efficacy (Bandura, 1995). Tu (2000b) found that social

interaction in online learning is influenced by social presence. Bandura (1989) stated that "Peers serve several important efficacy functions. Those who are most experienced and competent provide models of efficacious styles of thinking and behavior. A vast amount of social learning occurs among peers" (p. 45).

Cole (1985) affirms that cognition and culture create each other through the interaction in the zone of proximal development that is discussed in the coming section. Interaction in distance learning was defined by Wagner (1994) as integrated circles that affect each other. She says interactions are "reciprocal events that require at least two objects and two actions. Interactions occur when these objects and events mutually influence each other" (p. 8). Gilbert and Moore (1998) define interaction in distance learning as two-way communication among two or more persons to reflect their opinions and experiences on aspects. Moore (1993) believes that there are three types of interactions:

1. Learner-instructor interaction

   The interaction between the learners and the instructor is one of the most important and desirable interactions in both traditional learning and e-learning. This kind of interaction represents the base of security for the learners' directions. It provides the learners with guidance and feedback from an expert. This interaction enhances motivation and encourages progress evaluation.

2. Learner-learner interaction

   This is a new challenging dimension of interaction in distance learning that appeared in the1990s. The learners may interact with each other synchronously and asynchronously. It takes time with or without the teacher being present. This type of interaction is a valuable and sometimes essential resource of learning. Peer interaction builds the

learners' self-confidence in their abilities. This interaction encourages student-centered

learning and prepares the learners for real life where they need to cooperate with each

other in the workforce. The learners support each other by using their experiences and

understandings with each other.

3. Student-content Interaction

The contents provide the learners with the base material that help them to interact with

their instructor and with their peers. "Without it there cannot be education" (Moore,

1993, p. 20). It helps in changing the learners' understanding, perspective, or the

cognitive structures (Moore, 1989, 1993). Tuovinen (2000) classified the contents that are

used in electronic learning into text, sound, graphic, video, and virtual reality. The

instructor should be aware of using the suitable content that motivates the learners and

creates more interaction. Moore (1993) believed that the learners interact with the

computer and computer software.

Social Learning Theories

Social interaction is an essential factor in the learning process. Interaction between the

participants in the learning development phase improves the learning outcome (Bandura, 1977;

Gunawardena, 1995; Vygotsky, 1978). Bandura (1977) feels that social interaction is the main

key to develop and increase knowledge and experiences. He believed that people learn new

experiences by observing and imitating a model. He also asserts that learners will not be

influenced by either the environmental stimuli or the inner forces unless they are integrated.

These theories highlight the roles of the good model in the learning process of the virtual and

traditional educational settings. Crain (2005) believes that the four steps of the learning process

in Bandura's observation and imitation theory enforce the need for social interaction:

1. The first step of learning is the process of attention.

2. The second step of learning is the process of recognition.

3. The third step of learning is the process of motor reproduction.

4. The fourth step of learning is the process of reinforcement and motivation.

Bandura disagrees with Piaget that children may learn by themselves without any guidance or directions (Crain, 2005).

Piaget encourages researchers to focus on the outcome of peer interaction at the micro level on the social factors (Dasen & Heron, 1981). Gillani (2003) stated these words to explain Piaget's theory of cognitive development: "Children are born with an innate biological propensity to learn and construct their own knowledge in relation to the impact of the environment" (p. 75). Piaget believes that the social interaction between the learners is as important as the interaction between the learners and the environment. The major idea in Piaget's theory is that the learner should have the chance to discover and learn without any guidance or direction from the instructor. The child will not be able to learn in isolation from the world but the learner has to interact with others to acquire new experiences (Crain, 2005).

Piaget (1965) assumed that the moral development of the learner progressed through the interaction and cooperation with others. That means social interaction is essential in Piaget's theory. Gillani (2003) believes that the research of cognitive development had a major influence on the constructivism movement in educational technology, instructional designing and teaching methods. Cognitive theory encourages more inquiries and searching in online learning. These inquiries and researches will enforce the social interaction later. Piaget believed that the learner started individually to become a social learner later while Vygotsky declared that the learner is social from the beginning (Tudge & Rogoff, 1989).

Vygotsky (1978) believed that social interaction is a main step in the learning process. Cognition development cannot be developed as a way of social interaction. He asserted:

> Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people inter-psychological and then inside the child intra-psychological. This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals. (p. 57)

Vygotsky's social cultural theory supposed that the learner's ways of thinking and interpretation of the world is shaped by social interaction. Vygotsky assumed that the learning process and learner's explanation of the world cannot be separated from social interaction (Jaramillo, 1996). Vygotsky adopted the pointing finger example to show the importance of social interaction in the learning process (Kearsley, 1994). Vygotsky (1978) stated at the end of the pointing gesture example:

> It becomes a true gesture only after it objectively manifests all the functions of pointing for others and is understood by others as such gesture. Its meaning and functions are created at first by an objective situation and then by people who surround the child. (p. 56)

Vygotsky believed that the promising mental development of the child centered in the social life interaction "as the child interacts with more experienced members of the community" (Gayvain, 2001, p. 35). This social development has three important factors: the active learner, the experienced partners and the problem. The experienced partners target the zone of proximal development of the learners to facilitate the learning process (Gayvain, 2001).

Vygotsky (1978) believed that we should understand that there are at least two developmental levels in order to understand the actual relation between the promoting process and the learning potentials. In the learning process the learners go through the actual developmental level and the potential developmental level. The zone of proximal development is the distance between these two levels. The learners need adult guidance or collaboration with experienced peers to bridge this distance. Vygotsky asserted that the creation of the zone of proximal development is an essential feature in the learning process. This zone motivates the internal developmental processes to interact with capable peers. Lewis (1995) states that the individual knowledge is the core that the learner can use in specific individual tasks. The zone of proximal development surrounds this core so that the individual knowledge cannot help to solve the problem without cooperation with capable peers. Henning and Westhuizen (2004) assert that peer support is an essential scaffolding mechanism for learners in online learning. The social context facilitates and scaffolds the learning process more than technology and the curriculum in electronic learning.

Vygotsky "used the term scaffolding instruction to refer to the role of teachers and others in supporting the learner's development and providing support structures to get to that next stage or level" (Raymond, 2000, p. 176). It helps the learner use their prior knowledge to construct the new knowledge that the learners will not be able to achieve without interaction with others (Raymond, 2000). The scaffolding strategy supports the individual based on the learner's ZPD (Chang, Sung, & Chen, 2002). De Guerrero and Villamil (2000) asserted that both ZPD and scaffolding are essential concepts in sociocultural theory. Gunawardena and LaPointe (2008) believe that learners from different cultures learn differently. Some learners prefer to interact with others to cross the zone of proximal development. Scardamalia and Bereiter (1996) found

that scaffolding is an effective method that increases both cognitive skills and participation in online learning and F2F. Hannafin, Oliver, Hill, Glazer, and Sharma (2003) state that " Scaffolds are provided within Web-based environments to improve student learning, task certainty, and execution, and enthusiasm" (p. 252). Takagi (2008) conducted a study to find the effect of scaffolding on the native and non-native speakers of Japanese in the zone of proximal development in online learning. There were four students who were non-native speakers of Japanese requesting cultural information from four students who were native speakers of Japanese. The scaffolding technique in the computer mediated communication provided for both groups to interact and learn from each other. Pressley and Hogan (1997) believe that the notion of scaffolding strengthens the constructive approach through social interactions with more knowledgeable people.

<div align="center">**Social Presence**</div>

Definition

Social presence is an essential factor in promoting the efficiency of instruction in both F2F and distance learning. Educators, especially in distance learning, are supposed to consider the factor of social presence in the learning process (Tu, 2002b). It is critically very important to define the concept of social presence in order to help in promoting it in the learning process. Anderson, Archer, Garrison and Rourke (1999) believe that the root of social presences has been tracked to Mehrabian while discussing the concept of immediacy. Mehrabian (1969) asserts that nonverbal cues such as body movement encourage more interaction. Fafaeli (1988), Tu (2002b), and Rettie (2003) believe that social presence is vague. It has not been defined plainly. There should be more investigation in this area to obtain a clearer definition. (Short et al., 1976; Walther & Burgoon, 1992) define social presence as the awareness level of the other participants

in an interaction. Gunawardena (1995) rewords the definition as "the degree to which a person is perceived as a 'real person' in mediated communication" (p. 151). Anderson et al. (1999) state "Social presence is defined as the ability of learners to project themselves socially and affectively into a community of inquiry" (p. 50). Picciano (2002) defines social presence as the "sense of being in a place and belonging to a group" (p. 22) . Tu and McIsaac (2002) and Tu and Yen (2008) define social presence as the level of feeling, reaction and perception of being linked to another intellectual entity using Computer-Mediated Communication (CMC).

Value of Social Presence

Tu (2002a) believes that social presence is an effective issue in online interaction. "Social presence is required to enhance and foster on-line social interaction, which is the major vehicle of social learning" (Tu, 2000b, p. 27). Wheeler (2005) asserts that social presence is an essential component in virtual leaning. Lack of social presence may cause course dropping the course or course failure. A low level of social presence will lead to a low level of motivation. Rovai (2002) stresses that social presence is one of the important factors that should be considered in building a sense of community in online learning. The researcher assures that online designers should consider enhancing social presence. Anderson et al. (1999) believe that social presence is one of the three essential factors that produce meaningful learning. The other two factors are cognitive and teaching presence. Garrison, Anderson and Archer (2001) state that social presence is a critical issue in building on interactive community in the virtual world. Aragon (2003) argues that social presence helps learner to feel secure and work interactively with other participants. Social presence is an essential issue in the development of a virtual world community (Gunawardena & Zittle, 1997; Harasim, Hiltz, Teles, & Turoff, 1995). Hayashi, Chen, Ryan and Wu (2004) conducted a study to find the effect of social presence on online

learning. The study showed that there is a positive effect of social presence on the environment

of online learning. Rifkind (1992) says that the lack of social presence creates frustration.

Concepts and Elements of Social Presence

Gunawardena and Zittle (1997) and Tu and McIsaac (2002) believe that intimacy,

identified by Argyle and Dean (1965), and immediacy, identified by Wiener and Mehrabian

(1968), are the two concepts of social presence. Intimacy stands for conveying nonverbal aspects

such as eye contact and smiling. Immediacy stands for the psychological distance between the

participants and it can be projected through verbal and nonverbal factors.

Tu and McIsaac (2002) argue that these concepts should be broken into dimensions to

help in measuring the social presence. Tu (2000b, 2001, 2002b), Tu and McIsaac (2002), and

Baskin and Barker (2004) assert that social presence is difficult to measure so they pinpoint three

dimensions of social presence. The first one is social context that can be found in the

characteristics of the participants and their perception of online surroundings. The second

dimension is online communication that refers to the features, purposes and awareness of the

used language. This dimension is attached to the language used in online communication and its

application. The participant skill to read and type will be considered in this factor. The third

factor is interactivity. Communication style such as feedback tone will be taken into account in

this part.

Anderson et al. (1999) classify 12 factors listed under three categories that help in

analyzing the content to measure social presence. The first three indicators are emotion, humor

and self-disclosure and are listed within the affective category. The second six indicators are

continuing to post, quoting from others' messages, referring explicitly to others' messages,

expressing appreciation, asking questions, and expressing agreement, and these come under the

interactive category. The cohesive category contains three factors which are vocative, phatic, and addressing the group.

Caspi and Blau (2008) examined the correlation between an online learner's achievement and three factors of social presence. These are the perception of other participants, self-projection, and social identification. The quality of learning is positively correlated with social identification and self-projection but it does not correlate with perception of others.

Harms and Biocca (2004) administered a study to measure the social presence in face to face and online learning based on the six sub-dimensions of social presence. They believe that there are six sub-dimensions that can help in measuring the perception of social presence. These are co-presence, attentional allocation, perceived message understanding, perceived affective understanding, perceived affective interdependence and perceived behavioral interdependence. The study shows that two of the six factors, perceived messages understanding and perceived emotional interdependence, were not able to differentiate between the social presence experiences in F2F and online learning interactions.

Culture and Social Presence

Powell and Harville (1990) designed a study to examine the reactions among of different cultures towards teacher immediacy. The study shows that Asian and Latino learners need more teacher immediacy than Caucasian learners. Tu (2001) performed a study to find out how the instructor can increase the level of social presence with Chinese learners. The researcher found that more interactive virtual learning leads to a higher level of social presence.

Teng (2005) evaluated social presence through the eyes of native and non-native speakers. The researcher found that the non-native speaker expresses a higher level of social presence in online learning than a native speaker. Ethnicity effects the learner's perception of

social presence. The Asian learners perceive lower levels of social presence than Caucasian learners. The researcher asserts that course designing is a critical issue that influences social presence in online learning.

The levels and relationship between social presence and cognitive presence for non-native speakers in non-academic online learning have been examined by Yodkamlue (2008). The researcher found that there is a positive correlation between social presence and cognitive presence. High levels of social presence encourage high levels of cognitive interaction.

Social Presence and Learner's Satisfaction, Outcomes, and Motivation

There is a positive correlation between social presence, learner's satisfaction and learning outcomes (Gunawardena, 1995; Gunawardena & Zittle, 1997; Hackman & Walker, 1990; Hostetter & Busch, 2006; Richardson & Swan, 2003; Russo & Benson, 2005; Swan & Shih, 2005); and learner motivation (Gunter, 2001; Newberry, 2004; Tao, 2009). Swan and Shih (2005) conducted a study to ascertain the influence of social presence on the satisfaction and achievement of online learners. Mixed methods have been used to conclude that high levels of social presence lead to high levels of satisfaction and achievement.

Wise et al. (2004) conducted a study to measure the influence of the teacher's presence on learner's satisfaction and achievement. The study shows that there is a positive relationship between social presence and learner's satisfaction and achievement quality. In a study completed by Hostetter and Busch (2006), the relationship between social presence and the achievement and satisfaction of the learners in both face to face and asynchronous learning was examined. The researchers conclude that the format of learning does not affect the level of social presence. The experience of online learners has a significant positive effect on the level of social presence. The level of social presence positively affects the learner's satisfaction. On the other hand, the

researchers assert that there is no significant effect of the level of social presence upon the learning achievement.

A study was administered by Sallnas (2004) to measure the effect of touch feedback on the learner's performance and perception of social presence. The study shows that the touch feedback increased the level of performance and social presence in the virtual environment. Another study carried out by Wong, Shi and Wilson (2004) examined the relationship between social presence, decision process satisfaction, group performance, and group member's relevant experience. The study shows that there is a significant positive relationship between these four factors.

The relationship between the social presence and the learner's satisfaction and affective learning has been measured by Russo and Benson (2005). The study showed that there is a positive relationship between the social presence and learner's satisfaction and perception of learning within virtual learning. In another study, Gunawardena and Zittle (1997) examined the effect of social presence on learner's satisfaction in text-based medium in online learning. The study shows that the level of social presence is a major predictor of learner's satisfaction in online learning. Arbaugh (2001) found that social presence has a positive correlation with learner's satisfaction and achievement.

So (2006) used mixed method to find the relationship between collaborative learning, social presence and satisfaction. Questionnaires, postings, and interviews have been analyzed. The researcher found that the perception of social presence is a serious issue that positively influences satisfaction and collaboration. The researcher found that a high level of social presence leads to high level of collaborative working. High level of collaborative working leads to high levels of satisfaction. In another study, So and Brush (2008) looked at the relationship

between the social presence and the learner's satisfaction and collaborative working. They found that there is a significant positive relationship between collaborative working and social presence. The learner who has a high level of collaborative working feels a high level of social presence. There is a positive relationship between the learner's satisfaction and the level of social presence but it was not significant.

Hackman and Walker (1990) administered a study to examine the effect of social presence on students' achievement and satisfaction. They found that there was a great impact by social presence on the learner's accomplishment and satisfaction. Crim (2006) examined the effect of social presence on the learner's learning perception and satisfaction of asynchronous online learning. The study showed that a high level of social presence leads to a high level of satisfaction and value of education. Gunter (2001) and Newberry (2004) found that there is a positive correlation between social presence and learner's satisfaction and motivation.

Christophel (1990) investigated the relationship between learning, immediacy and motivation. The study showed that immediacy develops motivation that in turn enhances learning. Tao (2009) explored the correlation between social presence and motivation in online learning. The researcher found that there is a positive significant relationship between the level of social presence and the level of motivation. "Verbal immediacy affected online social presence significantly" (p. ii).

Shih (2004) supervised a study to find out the effect of social presence on the learner's perception of asynchronous online learning. The study shows that the level of social presence is a strong predictor of an online learner's satisfaction and quality of learning. Richardson and Swan (2003) explored the correlation between three variables: social presence, learning achievement, and learner's satisfaction. The study concluded that there is a positive correlation

between the three variables. A high level of social presence leads to a high level of perceived learning and satisfaction.

Liu et al. (2009) performed a study to measure the relationship between social presence and the learner's retention and achievement. The study shows that social presence is a major predictor of learning retention and achievement. Richardson (2001) worked on a study to examine the correlation between social presence and learner's satisfaction and achievement in online learning. The researcher found that a high level of social presence predicts a high level satisfaction and perceived learning. The effect of social presence, social interaction, presence, and sense of community on the learner's achievements has been examined by Walker (2007). The researcher concludes that these four factors influence each other. All of them help in promoting learning.

Social Presence and Online Interaction

Some studies show that social presence is a major factor that influences interaction in virtual learning (Murphy, 2004; Perse, Burton, Lears, Kovner, & Sen, 1992; Picciano, 2002; Shih, 2004; Stacey, 2002; Swan & Shih, 2005; Tu, 2001; Tu & McIsaac, 2002; Wise et al., 2004; Yodkamlue, 2008). Moore and Kearsley (2005) assert that educational research has shown a positive correlation between social presence and online interaction. Perse et al. (1992) confirm that a high level of social presence in electronic mail encourages more online interaction.

Murphy (2004) accomplished a study to measure the level of interaction between the learners in online learners. The researcher developed an instrument with six processes based on social presence. The researchers found there was a high level of interaction in the stage of social presence. Picciano (2002) conducted a study to examine the effect of interaction and social presence on the learner's performance. The study concludes that there is a positive strong

relationship between the learner's performance and their perception of the quantity and quality of online interaction.

Gunawardena (1995) examined the relationship between interaction and collaboration on social presence. She found that high level of social presence encourages more collaboration and interaction. In a study, Stacey (2002) analyzed the relationship between social presence, interaction, and the quality of learning. Findings showed that social presence creates efficient virtual interaction and value of learning.

Tu and McIsaac (2002) examined the relationship between social presence and the degree of online interaction. The researchers measured the three dimensions of social presence qualitatively and quantitatively. They conclude that "It is clear that social presence is a vital element influencing online interaction" (p. 146). Tu (2001) performed a study to find the relationship between the social context and Chinese students' interaction. The study shows that the level of social presence increases when the level of interaction increases.

Shih (2004) explored effect of social presence on the learner's perception of asynchronous online learning. The researcher found that the level of social presence is a strong predictor of an online learner's interaction. In a mixed method study, Swan and Shih (2005) conclude that a high level of social presence leads to a high level of interaction.

The influence of the teacher's presence on learner's interaction has been measured by Wise et al. (2004). The study found that there was a positive relationship between teacher's social presence and learner's interaction. Na Ubon and Kimble (2003) believe that social presence is an important factor that helps in creating collaborative virtual worlds.

Social Presence in Synchronous, Asynchronous and F2F Discussion

Researchers measured the level of social presence in both synchronous and asynchronous formats to find the method that creates more social presence (King, 2008; Kuyath, 2008; Sallnas, 2004; Tu, 2002a). In a mixed method study, Tu (2002a) measured the social presence in three formats of online discussion: e-mail, discussion board, and synchronous discussion. The e-mail format shows the highest level of social presence among the three formats. The researcher asserts that it is not recommended to prefer one format over another. The efficiency of discussion formats is based on the participant's attitude and ability. "No one CMC system is better than the other. In fact, providing multiple CMC systems and allowing students to select based on their personal preferences, situations, conditions, and opportunities are necessary" (p. 21). On the other hand, Kuyath (2008) conducted a study to evaluate social presence in online discussions using instant messaging and asynchronous discussion using e-mail. The learners found higher levels of social presence in synchronous discussion rather than asynchronous discussion. The quality of learning was higher in synchronous discussion. Sallnas (2004) administered a study to measure the effect of touch feedback on the learner's performance and perception of social presence in both synchronous and asynchronous communication. The researcher found that the text chat creates a lower level of social presence compared to video and voice communication.

In a study, the level of social presence in both synchronous and asynchronous communication was measured by King (2008). The researcher analyzed the data based on the effective, interactive, and cohesive factors developed by Anderson et al. (1999). The asynchronous group showed a higher level of emotion and communicative interaction. The synchronous group showed a higher level of cohesive interaction but it was not statistically

significant. The researcher concluded that there was no clear benefit of using synchronous tools rather than asynchronous tools in the learning process.

The perception of social presence in F2F and online formats was examined in a mixed method study completed by Stein and Wanstreet (2003). The researchers unexpectedly found that there was no significant difference in the level of social presence perception between the two communication formats. On the other hand, Baskin and Barker (2004) examined the effect of social presence in both F2F and online learning. They found that online learning had more social presence than F2F. Also, they concluded that social presence is an essential part of both environments, because it increases the quality of learning.

Social Open Sources and Smartphone

The features of social open sources attracted attention of the young generation. According to Smith (2009) and Cohen (2011), Facebook users have increased from 175 million users in 2009 into 650 million users in 2011. Hart (2010) found that Facebook decreased the gap of the social relationship between the learners. Dunlap and Lowenthal (2009) concluded that the use of Twitter in education enhanced social presence.

Smartphone users have increased greatly. As reported by Marketforce (2011), 51% of cell phone consumers already own Smartphone and 33% reported that they intend to own one in the next six months. So by the end of 2011, the Smartphone consumers will be more than 80%. Cochrane and Bateman (2010) and Davis (2010) found that Smartphone increases interaction and instant responses between the learners.

CHAPTER 3

METHODOLOGY

Introduction

The main purpose of this quantitative study was to measure the level of social presence through the eyes of both native and non-native graduate speakers in synchronous and asynchronous virtual communication formats. This chapter discusses the selection of the participants, and the instrumentation. Later data collection and data analysis are explored.

Research Questions

Research Questions

1. Do native speakers differ significantly in social presence than non-native speakers across synchronous and asynchronous communication?

2. Does synchronous communication differ significantly from asynchronous communication on social presence for native and non-native speakers?

3. Is there a significant interaction between the two types of learners (native vs. non-native) and type of communication (synchronous and asynchronous)?

4. Do native speakers have more social presence than non-native speakers in asynchronous communication?

5. Do non-native speakers have more social presence than the native speakers in synchronous communication?

Selection of the Participants

Two thousand, one hundred four graduate students at Indiana State University were solicited to participate. The participants included both males and females. The researcher considered that the non-native speakers speak different languages and are from different ethnicities, races, and cultures. The reason behind this is to avoid the bias that could come from a common cultural attitude.

In order to assure that there would be at least 50 participants in each group, the researcher contacted all graduate students at Indiana State University. The selected institution is characterized by holding both native and non-native speakers who experienced both F-2-F and online learning. An e-mail with the link of the survey was sent to all graduate students at Indiana State University.

Instrumentation

The instrument used in this study measured social presence in both synchronous and asynchronous formats. Social Presence in Synchronous and Asynchronous Questionnaire consists of three parts. The first part measures the level of social presence of both native and non-native speakers in synchronous communication. This part was adopted from 17 items from the Computer-Mediated Communication Questionnaire (CMCQ) developed by Tu (2002). This survey was originally developed by Steinfield (1986) to measure the attitude of the CMC users and further modified by Tu in 2002 to measure social presence in CMC. Each item I measured on a five-point Likert scale.

The 17 items adopted from CMCQ measured the three dimensions of social presence developed by Tu (2000). Tu (2000b, 2001, 2002b), Tu and McIsaac (2002), and Baskin and Barker (2004) believed that social presence is difficult to measure so they adopted the three

dimensions of social presence. The average score across the three factors is used as one score of social presence. These factors are social context, online communication, and interactivity. The first section of the questionnaire consists of six social context items that covers the learners' features and their attitude towards the virtual world, six online communication items that covers the characteristics, purpose, applications and perception of the used language, and five interactivity items that cover the communication technique and activities. The researcher modified the items to measure synchronous and asynchronous communication instead of CMC. In the first part of the questionnaire, the word CMC was replaced with synchronous online discussion. The second section duplicated all questions, but the term asynchronous is used instead.

The third part of the questionnaire gathers information on the demographic information of the participants, such as being native or non-native, nationality, gender, the level of computer expertise, and nationality for non-native speakers. Most items in this section were multiple-choice questions. There are eight demographic identities for native speakers and eleven for non-native speakers. This section was developed by the researcher.

Validity and Reliability of the Instrument

The content validity of the instrument items was examined by Tu (2002b). Content validity is the "degree that items in an instrument appear to measure what they were intended to measure" (Creswell, 1994, p. 121). Tu (2002b) revised the literature review to modify the social presence instrument of Steinfield (1987). Tu added some items that measure the perception of social presence. According to Tu (2004), each objective was numbered from 1 to 8 and N/A as 9. Experts were asked to select the best match for a given objective. Item 9 (N/A) was used when

an object match was not made. Tu used items that do not measure any of the objectives to test the accuracy of the experts.

The reliability of the instrument was examined by Tu (2002b) and So and Brush (2008). Tu (2002) performed a factor analysis on the original 30 items that measures five factors: social context, online communication, interactivity, system privacy, and feeling of privacy. The coefficient alpha was ranging from .74 to .85. The five factors accounted for 82.33% of the variance. So and Brush (2008) ran another factor analysis for the 17 items that measure the three dimensions of social presence and computed a .85 as the Cronbach' alpha coefficient.

The CMC questionnaire was reused by Tu (2002a) to measure the level of social presence in text-based CMC. Also, it was used by Tu and McIsaac (2002) to examine the relationship between levels of social presence and interaction. So and Brush (2008) adopted the 17 items that measure the level of the social presence in CMC to measure the learner's perception of social presence in a blended learning context.

Data Collection

The researcher uploaded the three parts of the survey to Qualtrics, a web-based survey tool used by Indiana State University. The link of the survey was e-mailed to 2,104 graduate students at Indiana State University. The participants were given one month to fill out the survey before the data was pulled out for SPSS analysis.

A high level of data security was considered during and after data collection. The participants completed the surveys anonymously. The submitted electronic data was kept confidential in this secure website.

Data Analysis

The dependent variable was measured on one score for social presence. The researcher conducted a 2x2 split-plot ANOVA design with repeated measure within subject for this study. The four cells in this design helped the researcher examine how every group differed in both discussion formats. An alpha level of .05 was used to determine significance in this study. This test was used to answer the first two questions:

1. Do native speakers differ significantly in social presence than non-native speakers across synchronous and asynchronous communication?

2. Does synchronous communication differ significantly from asynchronous communication on social presence for native and non-native speakers?

The most interesting part in this study was the interaction between native and non-native speakers on both environments, synchronous and asynchronous formats. The interaction analysis helped the researcher to answer the third question:

3. Is there a significant interaction between the two types of learners (native vs. non-native) and type of communication (synchronous and asynchronous)?

If there was a significant interaction, the researcher planned to run two t-tests to explore the interaction. The first t test would be between native and non-native speakers on asynchronous environment to answer question four:

4. Do native speakers have more social presence than non-native speakers in asynchronous communication?

The second t-test would be between native and non-native speakers on synchronous environment to answer question five:

5. Do non-native speakers have more social presence than the native speakers in

    synchronous communication?

Summary

A valid and reliable survey developed by Tu (2002) and used by Tu (2002a), Tu and

McIsaac (2002), and So and Brush (2008) was adopted and modified to answer the five questions

of this study. The participants received and filled out the survey electronically. A split-plot

ANOVA design with repeated measure was used, followed by two t tests to analyze the received

data to answer the research questions.

CHAPTER 4

RESULTS AND ANALYSIS OF DATA

Introduction

This study was intended to measure the degree of social presence in synchronous and asynchronous communication in online learning through the perception of native and non-native graduate students. The survey was sent to all graduate students at Indiana State University. Three hundred eighty out of 2,104 graduate students responded to the survey.

This chapter explores the results of the data analysis to answer the research questions. The first part of this chapter examines the descriptive analysis while the second part of this chapter is devoted to test the five research questions.

Descriptive Statistics

Three hundred seventeen of the responses were from native speakers. Sixty-three of the participants were non-native speakers. Regarding the non-native speakers, more than 18 nationalities participated in this survey. There were 9 Indian, 9 Taiwanese, 9 Saudi, 5 Korean, 4 Chinese, and 27 graduate students from other nationalities. Table number one shows the number of participants and their nationalities.

Table 1

Total Returned Surveys by Nationality

Participants	Number
Native speakers	323
Non Native speakers (63 participants)	
Indian	9
Saudi	9
Taiwanese	9
Korean	5
Chinese	4
From 13 other nationalities	27
Total of participants	386

Test of Normality and Homogeneity of Variance

ANOVA is the analysis of the ratio of two variances to assure the normality for statistical inference. Shapiro-Wilk's W test shows that the assumption of normality has been met since the test result is significantly smaller than one in the two groups across both methods (see Table 2). Also, the histograms of the four cells show that all four cells appear to be normally distributed. Moreover, the researcher used two statistical tests, Skewness and Kurtosis, to assure that the four cells are normally distributed. The values of the aforementioned tests indicate acceptable normal distribution.

Table 2

Test of Normality

		Shapiro-Wilk		
		Statistic	df	Sig.
Synchronous	English Native speaker	.073	323	.000
	Non-native speaker	.128	63	.012
Asynchronous	English Native speaker	.053	323	.028
	Non-native speaker	.145	63	.002

The test of homogeneity of variances assures the validity of the statistical comparison between the groups. Homogeneity of variances means that variances of scores in each level are equal. Levene's Test of Equality of Error Variance assesses this assumption. The test indicates there was no statistically significant difference between the variances of the groups. So the Homogeneity of Variance assumption was met for both tests, social presence in synchronous communication ($F = .271$, $p = .603$) and social presence in asynchronous communication ($F = .241$, $p = .708$), see Table 3. Homogeneity of Variances was not violated. Also, the Box Test of Equality of Covariance Matrices assumption was met, $p = .768$.

Table 3

Levene's Test of Equality of Error Variances

Type of Communication	F	df1	df2	Sig.
Synchronous	.271	1	384	.603
Asynchronous	.241	1	384	.708

In order to provide some understanding of the participant responses to the survey items, the researcher broke down the mean for every question in the survey for both native and non-native. See Table 4 for the mean of social presence for native, non-native and both speakers in synchronous communication. Table 5 provides the data for the mean of social presence for native, non-native and both speakers in asynchronous communication.

Table 4

Synchronous Communication Means

Synchronous Communication	Native speakers		Non-native		Both speakers	
	Mean	SD	Mean	SD	Mean	SD
Helps perform social interaction	3.63	.953	3.81	.774	3.67	.930
Allows informal conversations	3.68	.942	3.78	.766	3.70	.913
Conveys feelings and emotions	3.32	1.030	3.45	.941	3.34	1.014
Is capable of delivering personal touches	3.42	1.020	3.48	1.113	3.44	1.030
Is a confidential way to communicate	2.83	.999	3.27	1.011	2.92	1.009
Is a sensitive means of communication	2.95	.943	3.43	.852	3.05	.950
Is a pleasant way to communicate with	3.57	.818	3.55	.991	3.56	.845
Users respond in an acceptable time	3.63	.806	3.70	.920	3.66	.815
Users are normally responsive to messages	3.73	.709	3.67	.644	3.73	.685
Language is stimulating	3.25	.868	3.47	.835	3.29	.856
Is difficult to express what I want	3.22	.991	3.08	1.172	3.21	1.015
Language is meaningful	3.51	.783	3.67	.736	3.53	.771
Language is easily understood	3.55	.777	3.66	.821	3.58	.774
Comfortable discussing familiar topics	4.03	.725	3.94	.859	4.01	.738
Comfortable discussing unfamiliar topics	3.15	.972	2.73	.964	3.08	.972
Comfortable with familiar person	4.14	.625	4.03	.689	4.10	.633
Comfortable with unfamiliar person	3.31	.937	3.14	.906	3.30	.925

Table 5

Asynchronous Communication Means

Asynchronous Communication	Native speakers		Non-native		Both speakers	
	Mean	SD	Mean	SD	Mean	SD
Helps perform social interaction	3.26	1.029	3.55	.991	3.31	1.026
Allows informal conversations	3.58	.899	3.48	.992	3.57	.913
Conveys feelings and emotions	3.00	1.036	3.23	1.004	3.04	1.032
Is capable of delivering personal touches	3.19	1.062	3.27	1.027	3.21	1.055
Is a confidential way to communicate	3.00	1.106	3.25	1.084	3.05	1.105
Is a sensitive means of communication	3.00	.964	3.33	.944	3.05	.967
Is a pleasant way to communicate with	3.48	.886	3.44	.924	3.48	.890
Users respond in an acceptable time	3.19	.896	3.41	.938	3.22	.905
Users are normally responsive to messages	3.48	.828	3.44	.852	3.47	.831
Language is stimulating	3.25	.843	3.38	.882	3.27	.849
Is difficult to express what I want	3.28	1.016	3.25	.992	3.27	1.01
Language is meaningful	3.52	.775	3.66	.801	3.54	.780
Language is easily understood	3.50	.791	3.70	.903	3.54	.812
Comfortable discussing familiar topics	4.09	.639	4.14	.639	4.10	.638
Comfortable discussing unfamiliar topics	3.28	.947	3.25	1.008	3.27	.955
Comfortable with familiar person	4.09	.716	4.02	.701	4.08	.713
Comfortable with unfamiliar person	3.54	.922	3.48	.942	3.54	.924

Testing of Research Questions

ANOVA was conducted with social presence for synchronous and asynchronous as a dependent repeated measure variable and native and non-native speakers across synchronous and asynchronous communication as independent variables to answer the research questions. The first question asked if native speakers differed significantly in social presence than non-native speakers across synchronous and asynchronous communication. This question was tested at α = .05. There was no statistically significant difference of social presence between native and non-native speakers across synchronous and asynchronous communication, $F(1, 384) = 1.486, p > .05$ (see Table 6). Therefore the Null hypothesis was not rejected and the conclusion made that there was no significant difference in social presence between native and non-native speakers across synchronous and asynchronous communication.

Table 6

Test of Between-Subject Effect

Source	df	Mean Square	F	Sig
Native and non Native	1	.630	1.486	.224
Error	384	.424		

The second question asked if synchronous communication differs significantly from asynchronous communication on social presence for native and non-native speakers. The findings showed that synchronous communication did not differ statistically from asynchronous communication on social presence for both native and non-native speakers, $F(1, 384) = 2.156, p > .05$ (see Table 7). Accordingly, the researcher failed to reject the null hypothesis and concluded

that synchronous communication did not differ significantly from asynchronous communication on social presence for both native and non-native speakers.

The third question inquired if there was a significant interaction between the two groups of speakers (native vs. non-native) and the two types of communications (synchronous and asynchronous). The results confirmed that there were no significant interaction between the two groups of speakers (native vs. non-native) and the two types of communication (synchronous and asynchronous) on social presence, $F(1, 384) = .336$, $p > .05$ (see Table 7). Therefore the Null hypothesis was not rejected and the conclusion made that there was no statically significant interaction between the two groups of learners (native vs. non-native) and the two types of communications (synchronous and asynchronous).

Table 7

Test of Within-Subject Effects

Source		df	MS	F	Sig
Synchronous & Asynchronous for both	Greenhouse-Geisser	1	.273	2.156	.143
Synch & Asynch* Native and non-native	Greenhouse-Geisser	1	.043	.336	.562
Error (synchronous & Asynchronous)	Greenhouse-Geisser	384	.127		

The fourth and the fifth questions cannot be answered because no significant interaction was found.

Summary

The purpose of the study was to find the most suitable type of communication in the virtual environment for both native and non-native graduate students. The researcher conducted

ANOVA for synchronous and asynchronous as the dependent variable and native and non-native speakers across synchronous and asynchronous communication as the independent variables to examine the questions of this research study.

Three hundred eighty six out of 2104 graduate students at Indiana State University completed the survey. There were 323 native speakers and 63 non-native speakers. The researcher found that the assumption of normality and the Homogeneity of Variance were met.

The study concluded that there was no significant difference of social presence between native and non-native speakers across synchronous and asynchronous communication, no statistically significant differences for both speakers across synchronous and asynchronous communication, and no significant interactions between the two groups of speakers and the two types of communication on social presence. Discussion of these results is provided in Chapter 5.

CHAPTER 5

DISCUSSION AND CONCLUSIONS

Introduction

The previous chapter explored the data analysis. This chapter presents a summary of the study followed by a discussion of the findings. Then implications for practice, recommendation for further research and conclusions are covered in this chapter. The purpose of this chapter is to discuss the findings and provide further exploration of online graduate learners and their perceptions of online learning methods.

Summary of the Study

Nowadays, virtual classes are globalized. In one online class we may find learners from different countries using a second language to communicate and collaborate with other virtual classmates. The purpose of this study was to explore the experience of both native and non-native graduate online learners towards the methods of online communication that develop more social presence. A repeated measure survey was sent to all graduate students including native and non-native learners at Indiana State University. The experience and the perception of the participants were reflected in the repeated measure survey. Three hundred eighty-six out of 2,104 graduate students at Indiana State University responded to the survey. The collected data of the repeated measure survey helped the researcher to answer the following questions:

1. Do native speakers differ significantly in social presence than non-native speakers across synchronous and asynchronous communication?

2. Does synchronous communication differ significantly from asynchronous communication on social presence for native and non-native speakers?

3. Is there a significant interaction between the two types of learners (native vs. non-native) and type of communication (synchronous and asynchronous)?

4. Do native speakers have more social presence than non-native speakers in asynchronous communication?

5. Do non-native speakers have more social presence than the native speakers in synchronous communication?

The researcher conducted a 2x2 split-plot ANOVA with repeated measure within subject to answer the questions of this study. The null hypothesis of the first question was accepted. The researcher did not find any significant difference in social presence between native and non-native speakers across synchronous and asynchronous communication, $F(1, 384) = 1.486$, $p > .05$. The second question examined the perception of social presence of all graduate online learners in synchronous and asynchronous communications. The researcher failed to reject the second null hypothesis $F(1, 384) = 2.156$, $p > .05$. The researcher concluded that social presence in synchronous communication did not differ significantly from social presence in asynchronous communication for all graduate online learners. The third question explored the interaction between native and non-native speakers and the two methods of communications over social presence. The researcher found no significant interaction between the two types of learners and the two types of communication over social presence, $F(1, 384) = .336$, $p > .05$. The researcher concluded that there was no statistically significant interaction between the two types of learners

and the two methods of communications. The null hypothesis of the third question was not rejected. The fourth and the fifth question were not answered because there was no significant interaction in this study.

Discussion of the Findings

The goal of this study was examine the level of social presence in real life communication and delayed communication through the eyes of the graduate students. In this section, the researcher discusses the finding of each of the research questions.

Research Question One

Do native speakers differ significantly in social presence than non-native speakers across synchronous and asynchronous communication?

The researcher did not find a statically significant difference between native and non-native speakers over social presence across real communication and delayed communication. In the literature review, two studies explored the perception of both native and non-native speakers of synchronous and asynchronous communication. In the first study, Teng (2005) examined social presence in online learning through the eyes of native and non-native speakers. He concluded that non-native speakers preferred using asynchronous communication over synchronous communication. Non-native speakers felt less anxiety and had more time for reflection with asynchronous communication. But the researcher did not find any significant differences between native and non-native speakers towards synchronous and asynchronous communication. In the other study, Lara et al. (2001) found that non-native speakers preferred to use synchronous communication over asynchronous communication.

The result of the current study support Teng's finding (2005) . Native speakers and non-native speakers showed no significant difference between the two methods of online

communication. The difference between the findings of Lara's (2001) study and the current study may be attributed to the low size of sampling. The sample of the current study had 63 non-native speakers. Teng's sample had 59 non-native speakers from three different institutions. In contrast, Lara's study had only six participants. Also, the differences between the results of these studies might be attributed to the level of the participants. Some studies concluded that there are a variety of perspectives between graduate and undergraduate learners towards technology and online learning (Bloom & Hough, 2003; Thiele, Allen, & Stucky, 1999). Lara's sample represented pre-service and in-service teachers while the recent study represented only graduate students.

The delivery system can also affect the perception of the learner toward the learning method. The participants of the recent study were from one institution that uses Blackboard for online courses and even for face-to-face classes. Other institutions may use different systems that influence the perspectives of the learners. Teng (2005) found significant differences regarding the social presence in online learning environment among the three institutions that participated in his study.

Research Question Two

Does synchronous communication differ significantly from asynchronous communication on social presence for native and non-native speakers?

The study did not find a significant difference between synchronous and asynchronous communication on social presence for learners in general. In another study, King (2008) found a similar result. King measured the social presence in both synchronous and asynchronous communication and concluded that there was no significant difference between using synchronous and asynchronous communication.

Other studies that compared synchronous discussion with asynchronous discussion showed an advantage of asynchronous discussion over the synchronous discussion (Hirotani, 2005; Johnson & Buck, 2007; Mabrito, 2006; Schwienhorst, 2003; Wright et al., 2000). On the other hand, other studies confirmed the preference of synchronous communication over asynchronous communication (Burnett, 2003; Johnson & Howell, 2006; Poole, 2000; Skylar, 2009). For instance, Skylar (2009) found that both formats of communication were found to be effective in delivering education. That researcher reported that 75% of the learners preferred to use synchronous instruction over asynchronous instruction.

The differences in the findings of these studies may be credited to sampling. The recent study was taken from only one institution. Difference might also be attributed to the delivery system, as discussed earlier. Aviv et al. (2003) conducted a study and concluded that well-designed online courses united groups and encouraged critical thinking while non-constructed discussions encouraged low cooperative working environments and low cognitive activities. Teng (2005) attributed the differences regarding social presence in online learning among the three institutions to instructional design.

Research Question Three

Is there a significant interaction between the two types of learners (native vs. non-native) and types of communication (synchronous and asynchronous)?

The researcher did not find a significant interaction between the two types of speakers and the two methods of communications. This finding might attributed to having more than one ethnicity in the non-native speakers. The sample of non-native speakers represents more than 18 nationalities. The inclusion of so many multicultural groups may cause this non-significant

interaction. Dunn and Griggs (1995) stated that each culture has its own learning styles, and culture influences the learning processes and outcomes.

The finding of the current study supports Teng's study (2005) that did not find significant interaction between the types of learners and the method of communication. But Teng found significant interaction between the ethnic groups of non-native speakers. Teng reported significant interaction when comparing between Asian and Caucasian speakers.

Discussion of the Survey Items

When the mean was broken down, the researcher found notes of interest for both non-native speakers toward social presence in the two methods of online learning (see Tables 5 and 6). The researcher noticed that the means in both synchronous and asynchronous communication revealed that both native and non-native speakers believe there is more social presence in synchronous communication than asynchronous communications. However, the difference is not statistically significant.

Only in two items di both native and non-native speakers show more social presence in asynchronous and synchronous communication. Both of these items are about familiarity. The participants believed that both asynchronous and synchronous communication is more comfortable when the student is familiar with the discussed topic or the other party (see Tables 8 and 9).

Table 8

Unfamiliarity Means

Items	Native speakers		Non-native	
	Mean	SD	Mean	SD
Comfortable discussing unfamiliar topics in synchronous C*	3.15	.972	2.73	.964
Comfortable discussing unfamiliar topics in asynchronous C	3.28	.947	3.25	1.01
Comfortable with unfamiliar person in synchronous C	3.31	.937	3.14	.906
Comfortable with unfamiliar person in asynchronous C	3.54	.922	3.48	.942

*C stands for communication

Table 9

Familiarity Means

Items	Native speakers		Non-native	
	Mean	SD	Mean	SD
Comfortable discussing familiar topics in synchronous C*	4.03	.725	3.94	.859
Comfortable discussing familiar topics in asynchronous C	4.09	.639	4.14	.639
Comfortable with familiar person in synchronous C	4.14	.625	4.03	.689
Comfortable with familiar person in asynchronous C	4.09	.716	4.02	.701

*C stands for communication

Native speakers felt that there was less confidentiality in synchronous communication while non-native speakers felt that both types of communication had almost the same level of confidentiality. Furthermore, native speakers believed that synchronous communication was less sensitive than asynchronous communication while non-native speakers felt the opposite. Non-

native speakers considered asynchronous communication to be less sensitive than synchronous communication (see Table 10).

Table 10

Confidentiality and Sensitivity Means

Items	Native speakers		Non-native	
	Mean	SD	Mean	SD
Synchronous C* is a confidential way to communicate	2.83	.999	3.27	1.01
Asynchronous C is a confidential way to communicate	3.00	1.11	3.25	1.08
Synchronous C is a sensitive means of communication	2.95	.943	3.43	.852
Asynchronous C is a sensitive means of communication	3.00	.964	3.33	.944

*C stands for communication

Interestingly, both speakers revealed language did not affect their attitude toward their preference of using synchronous or asynchronous communication. Both of the speakers reported almost the same level of language difficulty and stimulation in both methods of communication. Regarding self-expression, both speakers reported more social presence in asynchronous communication than synchronous communication in term of self-expression (see Table 11).

Some studies found that non-native speakers find difficulty in online learning because of the language proficiency (Bates, 2001; Brancden & Lambert, 1999; Goodfellow et al., 2001; Pincas, 2001). Although asynchronous communication gives learners enough time to read, digest and reflect, the current study found that the perspective of non-native speakers for both synchronous and asynchronous communications had almost the same level toward language difficulty in online learning. This result can be attributed to the level of the participants. The sample in this study represented graduate students at one institution. Graduate non-native

speakers are expected to have a higher level of language proficiency than what is expected from undergraduate non-native students in TOEFL in order to enroll in the graduate programs.

Table 11

Language Means

Items	Native speakers		Non-native	
	Mean	SD	Mean	SD
Language can be easily understood in synchronous *C	3.55	.777	3.66	.821
Language can be easily understood in asynchronous C	3.50	.791	3.70	.903
Language is stimulating in synchronous C	3.25	.868	3.47	.835
Language is stimulating in asynchronous C	3.25	.843	3.38	.882
In synchronous C it is difficult to express what I want	3.22	.991	3.08	1.172
In asynchronous C it is difficult to express what I want	3.28	1.016	3.25	.992

*C stands for communication

Implications for Practice

Online communication is now used for both distance and face-to-face learning. Learners feel more connected with instructor and other peers by using the advanced telecommunication technology, such as smart phones and tablet devices. Online learning, which is the digital baby of distance learning, connects multicultural people speaking different languages from all over the world in one digital campus.

Social presence in online communication has a great effect on learning environment, learning outcomes and learning satisfaction. The researcher in this study attempted to measure the social presence in the methods of online communication through the eyes of native and non-native speakers.

The researcher found no significant interaction between native and non-native speakers toward synchronous and asynchronous communication. In addition, the learners in general did not show significant difference between the level of social presence in synchronous and asynchronous communication. The descriptive statistics of the survey items carry implications for people who are concerned about virtual learning (see Tables 4 and 5). The output of these items provides some implications for institutions, software and hardware developers, instructional designers, and instructors. In order to increase social presence that promotes quality learning in virtual communication, there should be exchangeable and integral work between those concerned parties.

Institutions

More than 18 nationalities in one campus participated in this survey. This number indicates the enormous diversity in higher education in United States. University strategic planners need to take into account the multicultural and multilanguage learners who are physically and virtually joining the campus. Training courses and orientation for both staff and faculty at the beginning of each semester could be held to stress cultural awareness. Planned virtual programs and activities for the leaner are some of the steps that increase cultural appreciation among virtual and campus students. Faculty who used to teach only face-to-face courses but now teach online should be trained and equipped with the needed skills that lead to a successful virtual environment.

The responses of the participants, especially native speakers, show little confidence in online confidentiality and sensitivity. Institutions are supposed to provide the virtual learners with the advanced technology and software that ensure privacy and security in order to elevate the level of social presence in online learning. Alternative formats for orientations to technology

can be provided for both virtual and campus learners. Parts of these orientations can show learners how to communicate online securely and how to use the available resources effectively for developing secure and private communication.

Learners, especially native speakers, show a low level of agreement toward the ability of both methods of communication to convey emotions and personal touches. The institutions need not only to find the delivery system that transports information, but also a delivery system that conveys feelings, emotions, and personal touches of the participants. The new open sources such as Google Wave, Skype and Gmail video chat can be integrated in the delivering system to transfer higher level of feelings and emotions in online communication.

Software and Hardware Developers

The participants, particularly native speakers, reveal a low level of comfort toward security and privacy in both methods of online communication. Software developers, who develop and manage the online delivery systems, need to accelerate their effort in closing security gaps. Live chatting between users and developers is essential in enlighten the users about the level of security that can be attained and the ways of maximizing the level of security. Live chatting offers developers the chance to get immediate feedback from their target audience.

Feelings, emotions, and personal touches, which are vital in elevating the social presence in online learning, should be considered by software and hardware developers. The learners in this study expressed a low level of agreement toward the ability of online communication, especially the asynchronous type, in transferring feelings, emotion, and personal touches. Many applications support peers or small group activities and while originally developed for entertainment, can be used for educational purposes. A bridge should be built between educators and hardware and software developers to support and improve the interests of both parties.

The items that are related to language in online communication reflect a low level of agreement from both types of learners regarding self-expression, ease of language and stimulation. Also, the participants reported a low level of agreement toward immediate responses to messages. Language stimulation can be increased by enhancing instant feedback. Most of the learners have their own 3G or 4G smart-phones that can be used anywhere. A small application can be developed to connect online participants with the delivering systems, such as Blackboard. These applications can help learners to receive, respond and comment on messages instantly. Also, the discussion board can be redeveloped to be more appealing, such as with some of the open source tools. Some of the features in Google Wave, such as rewind the discussion thread, translate robot and auto spell checker, can be integrated into the delivery system to make it easier to understand and easy to use.

The participants expressed their low level of agreement toward responding to other peers in their messages. The researcher recommends the online system developers to be connected and integrated with the social open sources and cell phone auto texting to encourage instant response in the virtual classes. Also, it is recommended that phone applications be developed to inspire immediate reaction to online messages and comment.

Instructional Designer

The instructional designer can critically help in elevating the low level of agreement that has been expressed in this study by online learners towards the level of social presence in online communication. The online instructional designer is not dealing with one community, but with multicultural and multilanguage learners. The effective analysis of the target audience cultures and languages helps in finding the suitable strategies that decrease language difficulty and increase language stimulation and feeling expression.

Both types of learners show a low level of agreement toward their satisfaction of using both methods of online communication. The instructional designer needs to find the techniques and strategies that fit online learners who represent different cultures and speak different languages. The follow-up of the instructional design regarding the advanced hardware and software that are being developed daily helps in making online communication more pleasant, more interactive and more emotional. In addition, the use of open source tools such as Facebook, Twitter, and Google wave supports instant messages and pleasant communication and convey more feelings and emotion.

Techniques can be developed by the instructional designer based on available resources to select delivery systems to encourage instant messages. The researcher recommends that instructional designers build bridges with software developers to develop suitable learning environments.

Instructor

The instructor is the center of the learning process. The experienced instructor who distinguishes between face-to-face and online environments helps a lot in promoting the level of social presence in online communication.

The participants expressed a low level of satisfaction toward the strength of security in online methods of communication. At the beginning of each online course, the instructor is should show online learners the level of security of their communication and how this level can be increased. The security software that is provided by the institution can be indicated and explained.

The participants reported a low level of agreement toward responding to other peers to their messages. It is recommended for the instructor to prepare a survey that can be filled by the

students at the beginning of each course to help the instructor to know the background, the

ability and the resources of the learners. For example, if all the learners in this class have smart

phones, they can be connected through that instant device. The survey will help the instructor to

know the ability of the learner in using open source tools such as Skype, Gmail voice and video

chat, Facebook, and Twitter that can be used through the smart phone and laptop to encourage

instant response to messages and comments.

The issue of instant messages and responding to messages can be solved by arranging a

clear schedule for discussion. There can be frequent follow-up and evaluation of the learners'

instant responses. For example, the instructor ranks participants by posting automatically

pictures or colors at the learners' names, ranking the learners according to their responses to

peers. This technique encourages more instant responses.

The participants expressed a low level of agreement toward ease of language and

language stimulation. It has been mentioned that more than 18 nationalities in one institution

participated in this survey. This reflects the diversity in higher education in United States. The

online instructor needs to watch closely the background of each culture and how it can be

motivated to interact effectively with other peers. The use of open source in virtual discussion

may create more stimulation and more language understanding. The implementation of open

source and their advanced features may facilitate decreasing language difficulty for the virtual

learners and increasing language stimulation.

The learners, especially non-native speakers, reported a low level of comfort toward

discussing unfamiliar topics. In contrast, the participants expressed a high level of comfort

regarding discussing familiar topics. The instructor should supply the learners with the required

resources that can be read to cover the planned topics. A clear and flexible schedule can be given

to the learners before the course starts. Linking the discussed topics to the participants'

experiences helps in making the topic more familiar to the participants.

The participants, particularly in synchronous communication, reported a low level of

comfort regarding communication with unfamiliar persons. On the other hand, the participants

expressed a high level of comfort regarding communication with familiar person. The instructor

should find ways of closing the gap between virtual learners and creating virtual friendships. For

example, in a virtual coffee shop, participants can introduce themselves to each other.

The use of open source tools in virtual learning can close the gap and strengthen

relationships between virtual learners. For example, Facebook and Twitter offer chances for the

virtual classmates to understand and read about their mates. The use of these open source tools

can increase the feeling of friendship.

Recommendation for More Research

This study has been carried out to measure the level of social presence in both methods of

online communication through the eyes of native and non-native speakers. The results of this

study reflected some useful implications for those who are concerned about education. The

findings of this study also have some limitations.

One significant limitation is that the participants represented only one institution, so the

results are not generalizable. The researcher recommends further studies that include participants

from at least 10 institutions representing different states.

Another limitation can be found in non-native speakers. In this study, non-native speakers

came from more than 18 backgrounds. Some studies found that learners' backgrounds influence

the learners' participation, satisfaction and achievement (Briguglio, 2000; Cheng, 1987, 1990;

Lin & Yi, 1997; Penner, 1995). The researcher recommends that future studies examine non-native speakers and concentrate on specific backgrounds.

A third limitation is located in the two types of communications. Asynchronous communication stands for different methods, such as e-mail, discussion-board, and blogs. The same thing is found in synchronous communication. For example, the level of social presence in video conferencing is different from the level of social presence in chatting although both of them represent synchronous communication. The researcher recommends further studies that compare social presence within the tools of each communication method.

There is a big difference between open source features and official delivery system features. The level of social presence in these two sources may not be the same. The researcher recommends future studies that measure the level of social presence in these systems.

Learners are connected with the social open sources such as Facebook and Twitter. The level of social presence will be different when learners are connected with each other through their own social networks. The researcher recommends more studies that measure the level of social presence in using the official delivery system and the level of social presence while integrating social networking with the official delivery system.

Conclusions

The findings of this study assert that there was no significant difference between native and non-native speakers over the level of social presence in synchronous and asynchronous communication. In addition to, learners in general did not show significant difference over the level of social presence in synchronous and asynchronous communication. As a consequence, the researcher did not find significant interaction between the two types of speakers and the two methods of communications.

The enormous diversity in online learning has been confirmed by having more than 18 nationalities from one campus participate in the survey. This huge diversity should encourage the people who are interested in online education and technology to pay special attention to those people who come from different backgrounds and speak a variety of languages.

Low level of agreement toward the level of social presence in both methods of online communication was revealed when the researcher broke down the means of each question in the survey. The researcher stressed that this low level of agreement emphasizes the importance for all people who are concerned about virtual education to work hand in hand to elevate the level of social presence in online learning.

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