

Using Online EFL Interaction to Increase Confidence, Motivation, and Ability

Wen-chi Vivian Wu^{1*}, Ling Ling Yen² and Michael Marek³

¹Providence University, Taichung, Taiwan 43301 // ²National Central University, Taoyuan County, Taiwan 32001 //

³Humanities 409A, Wayne State College, Wayne, Nebraska, 68787, USA // wcwu@pu.edu.tw //
linglingyen38@gmail.com // mimarek1@wsc.edu

*Corresponding author

ABSTRACT

Teachers of English as a Foreign Language (EFL) in Taiwan often use an outdated lecture-memorization methodology resulting in low motivation, confidence, and ability on the part of students. Innovative educators are exploring use of technology, such as videoconferences with native speakers, to enrich the classroom; however few guidelines have been developed for effective videoconference instructional design. This study used a survey methodology, Exploratory Factor Analysis, and Structural Equation Modeling to examine which elements of learning via videoconferencing most beneficially affect motivation, confidence, and ability. The study found that long-term changes in ability are best predicted by enjoyment of the learning experience. The data also suggested that even a small amount of authentic interaction in English made students more comfortable in applying their skills, more confident in what they learned, and more inspired to make global, cross-cultural connections. Therefore, EFL instructors should strive to use student-centered active learning and to offer their students interactions with native speakers, including interactions via distance technology.

Keywords

Videoconferencing, Computer-mediated communication, EFL, Motivation, Confidence, Ability, Constructivism, Online

Introduction

Immediacy of communication is one of the hallmarks of the global society of the 21st century. Business, politics, and the media all demand and expect seamless international exchange of information and ideas, and English is often the language of international interaction (Su, 2006). When two people interact who are not native speakers of the same language, they are likely to find common ground in English. The result is that instruction of English as a Foreign Language (EFL) is now a global priority for economic development, science, and interaction among governments. But in spite of the emphasis in many countries on producing college graduates with English skills, instructional methodologies have not always kept pace with the requirements of the marketplace. In countries where there is not a surrounding population using English actively, the language is still often taught as a traditional classroom subject, with students rarely interacting with anyone except their teachers and classmates – far from an authentic learning environment. Today, however, technology provides a global infrastructure serving business, political, social, and entertainment endeavors. This provides many new potential channels for interaction among people who speak different languages, live in different countries, and reside in different cultures; however educators must be willing to take advantage of the potential to use such interaction as a learning tool.

In Taiwan, the setting of this study, most people have minimal need to speak English on a daily basis, so English is instructed as a foreign language (EFL) and learning happens without any immediate opportunity to use English for actual communicative functions (Lan, 2005). In addition, EFL teachers in Taiwan often continue to use outdated lecture/memorization methodologies. These environments rarely include meaningful interaction with native speakers of English or authentic materials that relate to the target culture (Su, 2008; You, 2003). The result is that students are often not internally, integratively, motivated to pursue their study of English, resulting in lower proficiency.

However, there are demonstrated benefits to be gained from authentic experiences related to the target language, especially conversation with native speakers (Fujii & Mackey, 2009; Gilmore, 2007). Creative teachers attempt to replicate the target language's environment, usually through bilingual curricula, technology-assisted teaching, and immersion programs, thus injecting authenticity and shifting the focus of the classroom from lecture and memorization to active learning. Savignon (1998) pointed out years ago that the classroom context is always different from a natural learning environment, but also concluded that teaching for communicative competence should be the guiding principle of English pedagogy where learners expect and value communicative skills (Savignon & Wang, 2003). Reliance by instructors on lecture and rote memorization makes this goal difficult to achieve. Institutional culture, technology choices, characteristics of teachers and students, instructional design, and

pedagogic criteria can all affect the success of such efforts to foster active learning via authentic experiences, including those available via technology (Fresen, 2007).

Study framework

This paper reports on a project that used student-centered, active learning, and instructional materials that students viewed as highly authentic, including live online interaction with a native English speaker on topics of American culture. The American researcher spoke repeatedly via Internet videoconference to English conversation classes taught by the Taiwanese researcher. After short presentations by the American, the students each talked briefly with the American to ask questions or make comments about the subject of the presentation. This project was based on an extensive review of the relevant academic literature on the learning dimensions of motivation, confidence, and ability. These dimensions were selected because motivation and self-confidence are often described in the academic literature as predictors of academic performance, i.e. actual ability (Tavani & Losh, 2003).

Many studies have examined videoconferencing as an approach to EFL instruction. For example Wu and Marek, (2010) found that as a result of a series of videoconference instructional sessions, motivation, confidence, and ability of the students correlated directly and confidence profoundly impacted perceived ability in students. However, details are still lacking in the literature about the multiple components that make up these factors. Thus, the focus of current research was not simply to reexamine relationships among these three factors, but, further, to gain deeper understanding about how the components of the factors impact one another using exploratory, confirmatory factor analysis, and structural equation modeling (SEM). Therefore, the research method used in this study pioneers a new approach to data analysis of videoconferencing for EFL instruction.

Types of motivation

Motivation, confidence, and ability are interrelated and interact with each other (Butler & Lumpe, 2008; Phillips & Lindsay, 2006). Motivation can increase rapidly, given a positive stimulus, but ability improvement may take significant time and study. In addition, confidence is a reflection of the other two factors because confidence grows as student ability increases and anxiety decreases, thus stimulating both motivation and ability. All three learning variables — motivation, confidence, and ability — are the result of the cumulative experiences of the student, both in and out of the classroom. All three variables improve or decline as the consequence of positive or negative experiences that motivate or de-motivate the students (Sakai & Kikuchi, 2009). As a result, EFL teachers have the unique opportunity to improve student motivation through fostering desirable student goals, stimulating active learning, and leading dialog about the purposes of learning.

Intrinsically motivated learners have long been considered to be more successful because their learning goal is to achieve satisfaction and enjoyment (Wang, F. X., 2008). Learners driven by extrinsic motivation tend to make the minimum effort required to avoid punishment or to gain rewards. Gardner's framework of Instrumental and Integrative motivation (2001) is commonly cited. EFL students who are instrumentally motivated are extrinsically driven, studying English only enough to complete a required class, to acquire minimum required job skills, or to earn a degree — all external, utilitarian goals (Wu, 2006). Gardner considered integrative motivation to be more desirable and effective because it stems from the learner's intrinsic desire to engage with the target language and culture. Gardner concluded that integrative motivation is a strong predictor of success in learning a foreign language.

Changing realities of the 21st century have led to the understanding that EFL learners today do not use their language skills only to communicate with native speakers. They may, as often, communicate with other non-native speakers in English (Kormos & Csizér, 2008; Lamb, 2004). Dörnyei (2005) offered a complex understanding of motivation in which foreign language learners envision an idealized English-speaking self, based in part on real-life encounters with speakers of the target language and in part on how the students imagine themselves functioning in a cosmopolitan international society. The key to imagining this international society is knowing that students will interact in English with people who are native speakers of many other languages. Yashima, et al. also found that social interaction with other cultures promotes intrinsic motivation of students (Yashima, Zenuk-Nishide, Shimizu, 2004). However, even though learners in Taiwan are constantly exposed to a wide range of English products and artifacts, such as American films, music, books, and videos, direct contact with native speakers on the daily basis is

often minimal (Cheung, 2001) and many researchers have found that the primary cause of lower English proficiency among students in Taiwan is weak learning motivation stemming from passive learning environments (Wu & Ke, 2009).

Motivation factors and perceived English ability and confidence

Students' confidence in language use is reflected in whether they are willing to communicate (Yashima, 2002; Yashima, Zenuk-Nishide, Shimizu, 2004). Students often decline to use English because they are embarrassed about their lack of fluency (Shamsudin, & Nesi, 2006), or because of conflicts and misunderstanding about the language and the culture (Muller-Hartmann, 2000).

More frequent intercultural contacts have been shown to increase self-confidence in the use of foreign languages (Clément, Noels, & Deneault, 2001). When the contacts were positive and pleasant, the experience led students to interact more frequently in the foreign language both outside and inside the classroom. Because the experience was enjoyable, the increased self-confidence of the students, in turn, affected their motivation in a positive way. Therefore, successful interaction with native speakers can relieve student hesitancy to express themselves and increase their confidence in using the language.

CMC learning

Many researchers have found that use of computer-mediated communication (CMC) for language instruction benefited EFL students and that students perceived that their confidence in using English increased in a CMC environment (Ortega, 2009). Research has been conducted using asynchronous and synchronous CMC for L2 language learning (Liu & Chen, 2007, Payne & Ross, 2005; Tudini, 2003), and also for everyday decision-making (Smith, 2003, 2004). Asynchronous CMC benefits students by permitting delayed response to questions to allow careful construction of grammar (Hudson & Bruckman, 2002). The ideal synchronous CMC for L2 learning is speaking with a native speaker who provides good target language interaction.

Most college students experience online real-time interaction as part of their personal social networking and text messaging. The adaptation of social networking structures already in use to the EFL environment is a natural step (Campbell, 2004; Miyazoe & Anderson, 2009), but teachers usually lag well behind their students in use of technology, particularly Internet social networking systems.

Videoconferencing for language instruction

Developing online opportunities for language instruction poses important and difficult challenges (Wu & Bright, 2006). In American education, videoconferencing technology has been available for close to 35 years and online collaborative learning has become increasingly common and valuable (Kubasko, Jones, Trotter & Andre, 2008; Tiene & Ingram, 2001; Saw, Majid, Abdul Ghani, et al, 2008). Once available only at considerable expense, videoconferencing is now possible via the Internet with minimal expense and standard home consumer equipment (Dantas & Kemm, 2008). Without careful consideration of the instructional design, however, videoconference instruction tends to default to long-distance lecture with little interaction. As a result, students tend to be passive, as if they were watching television (Gillies, 2008). In Taiwan, few EFL faculty members are familiar enough with videoconference technology to employ it in the classroom.

Study context

The Taiwanese and American teachers in this study met as colleagues in an American Ed.D. program that stressed student-centered active learning. This literature review led them to the conclusion that online learning, used well, and properly managed by the teacher, providing authentic interaction with native English speakers, can be particularly well-suited to move learners from passivity into active, highly motivated learning. However the literature was lacking in guidance on how such a methodology affects variables in the learning process. The researchers, therefore,

concluded that a study providing guidance for instructional design and lesson plans would be highly relevant. In order to provide this relevancy, the main goals of this study were to determine (1) which elements of learning via videoconferencing cause the most beneficial changes in motivation, confidence, and ability, and (2) the degree to which motivation, confidence and ability change, as a result of the number of videoconference sessions.

Methods

Theoretical Framework

This study was informed by the social constructivist philosophy in which student collaboration and student/teacher interaction leads learners to evolve their own knowledge foundations, and which depends on the building of positive relationships and interaction among students and between students and instructors (Brandon & All, 2010). In this way, a learning community is formed that helps members construct new knowledge that is well-connected to other knowledge held by the students. Scaffolding is a primary tool used by teachers to foster this interaction (Lee, 2003), a technique in which teachers initially give high support for the task to be accomplished, but slowly withdraw support to encourage the students to be independent.

Subjects

The subjects of this study were 227 non-major EFL learners from the business school of a technical university in central Taiwan, as part of the class requirements of five sections of a required English conversation class taught by the Taiwanese researcher. The learners included both day- and night-school students, traditional and non-traditional students, and roughly equal numbers of male and female students. The classes lasted for the entire academic year. Data were collected at the conclusion of both the fall and spring semesters. Over one academic year, students participated in five videoconferences with the American researcher, an American native English speaker. After an initial presentation by the native speaker on an American cultural topic, the students talked with the American or made presentations back on related topics. The Taiwanese teacher used scaffolding during the videoconferences, initially giving high levels of support during the interaction, and gradually withdrawing that support to encourage the students to become more and more independent in their interactions.

Survey instrument

The questionnaire used in this study consisted of four major sections based on Gardner and Lambert's questionnaire (1972). Questions were added about student perceptions of the following topics:

- Intercultural learning (Yashima, Zenuk-Nishide, Shimizu, 2004),
- Learning English through different channels (Campell, 2004; Miyazoe & Anderson, 2009) related to the motivation variable,
- Confidence in making foreign contacts (Cheung, 2001),
- Learning western culture (Muller-Hartmann, 2000) related to the confidence variable,
- Speaking English accurately, and
- Understanding English conversation (Shamsudin & Nesi, 2006).

Because some new question items were added to Gardner's survey, reliability and validity of the questionnaire were tested. An exploratory factor analysis was used to reduce some question items from the questionnaire and a confirmatory factor analysis was used to test construct validity of the questionnaire. The overall internal reliability was .92, with each section also scoring above .85, which is considered to have high reliability compared with the minimum Cronbach α of .75, which is considered reliable.

The 13 items in the section A asked about the degree of change in student interest and motivation in studying both the English language and the culture of the target language. The 10 items in the section B explored the students' perceptions of change in their English-proficiency levels. The 11 questions in the section C asked about change in student confidence in using the language. The final section, D, asked for demographic information -- gender, age,

program type, years of English study, type of high school attended (technology- or academically-oriented), and experience with online learning and using technology. Each question used a five-point scale. The low end of the scale was labeled “significantly reduced” (= 1.00) and the high end of the scale was labeled “significantly increased” (= 5.00). The midpoint of the scale (=3.00) was labeled “no change.”

The Taiwanese researcher administered the survey, in Mandarin, to the students at the end of each semester in each of the five classes. The survey questions were carefully translated to preserve similar meaning in both Chinese and English.

Exploratory Factor Analysis and Structural Equation Modeling

In order to address the goals of this study, three paired *t* tests, ten exploratory factor analyses, a confirmatory factor analysis, and an SEM analysis were used to explore information about path correlations among the components of each variable. After the data were collected, and for purposes of the SEM analysis, the researchers hypothesized, based on the past research findings, that ability directly results from confidence, and motivation and confidence directly results from motivation (Hashimoto, 2002; Yashima, 2002; Tavani & Losh, 2003; Yashima, Zenk-Nishide, & Shimizu, 2004). Figure 1 depicts the resulting hypothesized model that was tested.

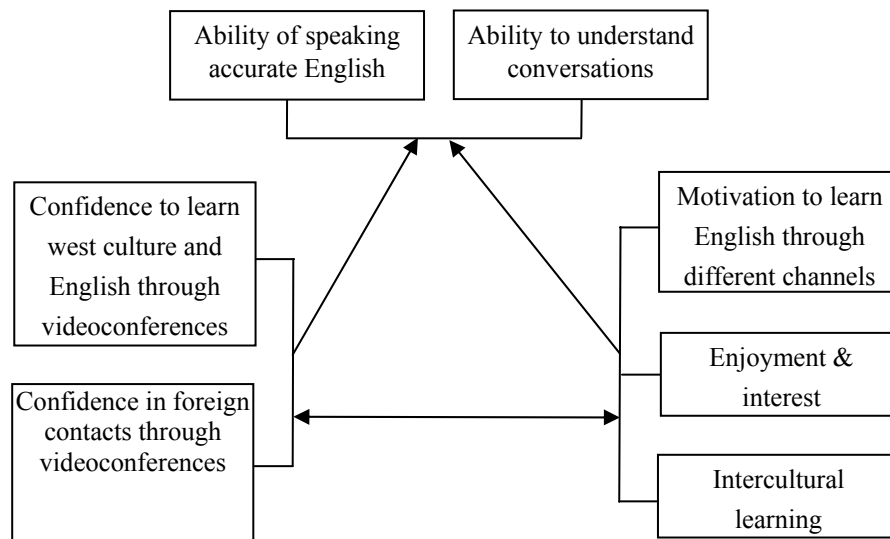


Figure 1. The hypothesized model for statistical testing

Findings

The survey results were coded for analysis. In order to answer research question 1, about elements of learning via videoconferencing causing the most beneficial changes in motivation, confidence, and ability, the researchers used Exploratory Factor Analysis and Structural Equation Modeling (SEM). To answer research question 2, about the degree to which motivation, confidence and ability changed as a result of the number of videoconference sessions, the researchers used means and t-tests.

Exploratory Factor Analysis

The researchers used factor analysis to decrease the number of the components (factors) in each of three variables -- motivation, ability and confidence -- using a Maximum Likelihood method with varimax rotation. The analysis revealed an underlying pattern of relationships for each variable. A Kaiser-Meyer-Okin (KMO) measure of the sample adequacy validated the fitness of the data for factor analysis, performed based on a factor loading of 0.5 or higher and an eigenvalue greater than 1. These findings are in line with Gorsuch (1983) who is commonly cited as noting that extracted variances of 40%–50% reflect an adequate factor structure for self-report scales.

Factor analysis of motivation and interest

The varimax rotation solution for Motivation (see Table 1) revealed that 37.54% of the variance was explained by the three factors, with component 1, *Motivation to learn English through different channels* contributing 15.31%; component 2, *Interest/enjoyment* contributing 12.02%; component 3, and *Intercultural learning* contributing 10.21%. Analysis of internal consistency reliability of these four components yielded a Cronbach α of 0.85, and the KMO of this analysis was 0.877.

Table 1. Factor Analysis with Percentage of Variance and Reliability Analysis of Motivation of using Internet Videoconferencing for Learning English (N = 227)

Motivation		Sample question item
Component	% of Variance	
1. Motivation to learn English through different channels	15.31%	Item 11: Your motivation to watch or listen to TV or radio programs in English?
2. Interest/Enjoyment	12.02%	Item 1: Your interest in your EFL class?
3. Intercultural learning	10.21%	Item 7: Your interest in making foreign friends?
Total	37.54%	

Factor analysis of confidence

The two-component solution for Confidence (see Table 2) explained 47.38% of the variance, with component 1, Confidence in learning English and western culture through videoconferences contributing 31.04%; component 2, and Confidence in foreign contacts through videoconferences contributing 16.34%. Analysis of internal consistency reliability of these three components yielded a Cronbach α of 0.89, and the KMO of this data analysis was 0.807.

Table 2. Factor Analysis with Percentage of Variance and Reliability Analysis of Confidence of using Internet Videoconferencing for Learning English (N = 227)

Confidence		Sample question item
Component	% of Variance	
1. Confidence in learning English and western culture through videoconferences	31.04%	Item C11: Confidence in studying Western culture?
2. Confidence in Foreign contacts through videoconferences	16.34%	Item C8: Confidence in learning English through distance learning?
Total	47.38%	

Factor analysis of ability

The two-component solution for English Ability (see Table 3) explained 44.36% of the variance, with component 1, Speaking accurate English contributing 24.32%; and component 2, Understanding of English conversations contributing 20.04%. Analysis of internal consistency reliability of these three components yielded a Cronbach α of 0.88, and the KMO of this data analysis was 0.900. Table 4 depicts significant intercorrelations among the components of the variables, motivation, confidence, and ability.

Table 3. Factor Analysis with Percentage of Variance and Reliability Analysis of Ability of using Internet Videoconferencing for Learning English (N = 227)

Ability		Sample question item
Component	% of Variance	
1. Speaking accurate English	24.32%	Item B8: Ability in pronouncing English words more accurately?
2. Understanding of English conversations	20.04%	Item B3: Ability in understanding English in conversations with Native speakers?
Total	44.36%	

Table 4. Intercorrelations among the components of the variable, motivation, confidence, and ability

	Motivation component 1	Motivation component 2	Motivation component 3	Confidence component 1	Confidence component 2	Ability component 1	Ability component 2
Motivation component 1	1						
Motivation component 2	.487**	1					
Motivation component 3	.466**	.507**	1				
Confidence component 1	.434**	.313**	.357**	1			
Confidence component 2	.346**	.189**	.276**	.744**	1		
Ability component 1	.288**	.165*	.244**	.616**	.569**	1	
Ability component 2	.295**	.250**	.377**	.558**	.494**	.678**	1

*Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

See tables 1, 2 & 3 for identification of motivation, confidence and ability components.

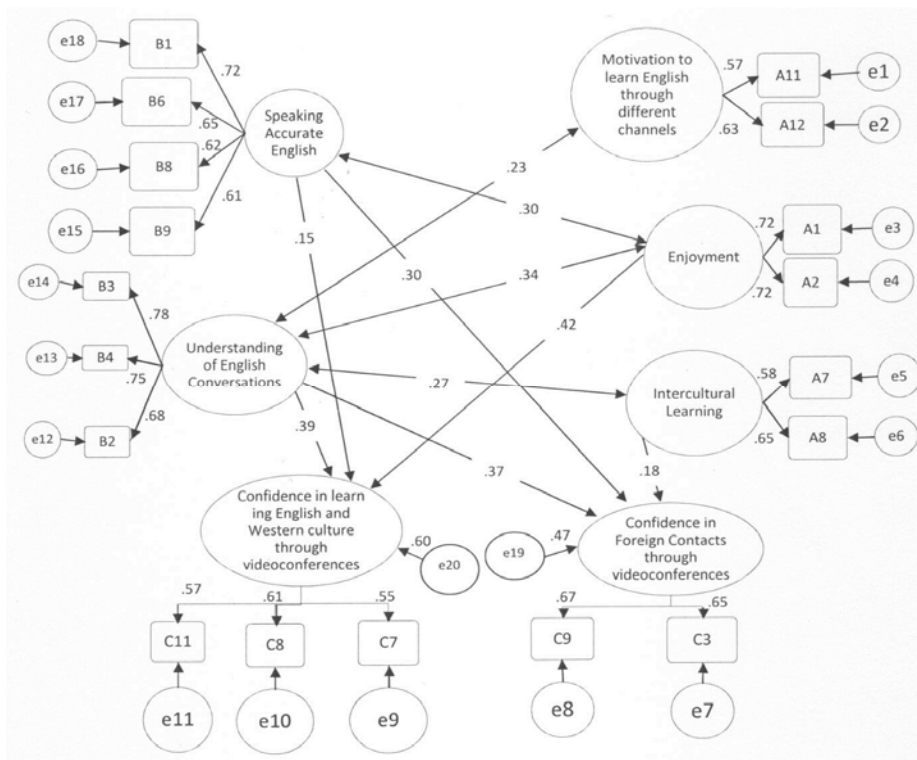


Figure 2. SEM result of the latent variables motivation, confidence, and ability

Structural Equation Modeling (SEM)

An SEM with Amos 17.0 was used to test the CFA models for the questionnaire's construct validity. Two latent variables consisting of the ability to speak accurate English and the ability to understand English conversations were entered, with the result indicating that the model fitness to the data was good, Chi-Square = 38.77, GFI = .965, RMSEA = .047. Motivation to learn English through different channels, motivation in intercultural learning, and interest/enjoyment were found to define the latent variables related to motivation, and the model fitness to the data

was good, Chi-Square = 43.69, GFI = .965, RMSEA = .04. Confidence in learning English and western culture through videoconferences and confidence in foreign contacts through videoconferences were found to define the latent variables related to confidence, and the result indicated that the model fitness to the data was good, Chi-Square = 26.40, GFI = .976, RMSEA = .008.

All aforementioned latent variables were included and tested in a sequence of models with standardized path coefficients using Amos 17.0. The result of the final model is shown in Figure 2. The model's fitness to the data was good: Root Mean Square Error of Approximation (RMSEA) = .03, Goodness-of-Fit Index (GFI) = .94, Root Mean Square Residual (RMR) = .035, Chi-Square = 144.75, $P > .05$. The standardized regression weights in the Figure 2 represent the amount of change in the dependent variable that is attributable to a single standard deviation unit worth of change in the predictor variable.

The empirical findings indicated that confidence in interacting with foreigners through videoconferences is the direct result of motivation to engage in intercultural learning, ability to speak accurate English, and ability to understand English conversations. Confidence in learning English and western culture through videoconferences is the direct result of enjoyment, ability to speak accurate English, and ability to understand English conversations. Ability to understand English conversations is correlated to motivation to learn English through enjoyment, and motivation in intercultural learning. Ability to speak accurate English is correlated to enjoyment.

Changes in the three variables after more videoconferences

To determine the influence of the number of videoconferencing sessions on motivation, confidence, and ability, mean scores for each were computed at the end of each semester. Comparing student responses from the end of the first semester (after two videoconferencing sessions) with the end of the second semester (the same students in a total of five videoconferences over the two semesters), the participants perceived a moderate increase in motivation from the end of the first semester to the end of the second semester, with a mean score increasing from 3.80 to 4.09, and a t -test value of $t(226) = 4.16$, $p < .05$. More videoconferencing sessions, therefore, improved the student's perceptions of their own motivation at a significant level. Additional videoconferencing sessions, however, did not change their perceived ability or confidence at a significant level after conducting t -tests.

Discussion

This study took place within a culture in which the daily use of English is rare, one of two typical English-language contexts found in the Asia-Pacific region. Like in Japan and Korea, use of English is uncommon in Taiwan. On the other hand, in countries such as Hong Kong, Singapore, and the Philippines, a significant base of native English speakers leads to more frequent use of English in everyday life. This social use, or non-use, of English results in significantly different mindsets about the learning of English, as shown in many studies over the years (Liu & Jiang, 2009; Sheen, 2004).

Relationships among the three learning variables

The findings with respect to research question one, about the most beneficial elements contributing to motivation, confidence and ability, show that there were multiple complex interlinked dimensions. The SEM analysis showed that confidence in using English stemmed from multiple subcomponents of ability (ability to speak accurate English, enjoyment, and ability to understand English conversations), as well as confidence in making foreign contacts. Ability to understanding English conversation correlated in both directions with Motivation to learn English through different channels, enjoyment, and motivation for intercultural learning, all subcomponents of motivation, and also influenced confidence in foreign contacts through videoconferencing. Changes in ability to speak English accurately, as perceived by the students, correlated in both directions with enjoyment, a subcomponent of motivation. Figure 3 shows a basic conceptual model of the various categories of correlation found in this study, with the arrow directions showing key SEM path directions and the width of the lines showing the relative statistically significant correlations.

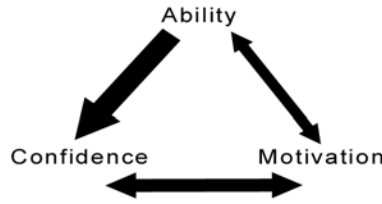


Figure 3. Path coefficients and degrees of statistically significant correlation in learning

As figure 3 makes clear, English ability is the most important factor impacted by the instructional design of this study. The majority of students whose English abilities were low felt that their English abilities rapidly increased when interacting with the American professor. It is likely that the interactive classroom activities helped the students learn vocabulary and structure of sentences used in conversational English. Because their English abilities were inadequate for correct conversation, the students' beginning confidence levels were also low. The findings indicated that motivation is the indirect factor impacting on ability and confidence of the participating students. Therefore, the students initially had low motivation for interacting with the American professor because of the language barrier. As the videoconference lessons proceeded, student ability, confidence, and motivation all grew.

Previous research is clear that an instructional methodology stressing interaction as a tool for building confidence produces increases in student ability and that student centered, active learning, including videoconferences similar to those in this study, results in direct correlations of motivation, confidence, and ability of students, with confidence profoundly impacted the students' perceptions of their own ability (Wu & Marek, 2010). The current study also found that enjoyment is a major factor impacting student learning over the long term. But this study also implied that the students perceived difficulty in making actual conversations with native speakers because their English abilities were inadequate. Therefore, regardless of past English training, EFL students with low skills may require specific conversational training. The result of a positive experience is that as students are drawn into using English as a real, communicative language, they became more proficient and developed a higher level of motivation. This positive experience, in turn, promoted the mental image that the student needs to be proficient in English in order to partake in international society (Dörnyei, 2005).

The current study has shown that well designed videoconferencing for interaction with native speakers, rich in authentic cultural information, does increase confidence and improve motivation, which in turn have the effect of strengthening ability, over the long term. When matched with more conventional classroom activities that directly relate to ability, the instructional design in this project hits all three of the "bases" by improving ability, confidence, and motivation. Therefore, as Blake held (2009), authentic learning is not simply the ability to talk with a native speaker, but rather an environment in which students have the support they need to make meaning for themselves, based on authentic source material.

The instructional design used in this study was grounded in constructivism (Brandon & All, 2010), a predominant model of educational psychology around the world. Constructivism holds that people construct meaning and learn most effectively by active participation in the learning process. According to Constructivism, passive classrooms, such as the lecture-memorization model, are not effective teaching tools. In order to apply Constructivist principles, the teachers' pedagogical design made the classroom in this study highly interactive. Following the American's presentations, providing new information, the students collaborated actively to develop presentations back to the American, selecting new information, synthesizing it, and fitting it in with what they already knew to make new mental connections. Therefore, this study stressed multiple dimensions of interaction for the students, including with the native speaker, with their own teacher, and with their peers, both in and out of class, in formal and informal settings, in accordance with Constructivist principles. Furthermore, the instructional design employed scaffolding, a technique studied widely and found to be valuable (Van de Pol, Vilman & Beishuizen, 2010). Active, successful interaction and effective communication in the target language, be it with other students, teachers, or speakers of the language from outside the classroom, has proven to be a valuable component of an instructional design that builds ability through strengthening motivation and confidence.

The findings of this study also showed that this application of CMC created a safe environment in which motivated students could engage in language learning. As Dörnyei predicted, the more the learners felt connected

internationally, the more likely they were to succeed in increasing their perceived confidence and ability. The learning environment used in this study facilitated intercultural learning by, in effect, establishing an international learning network.

Young people in Taiwan readily access American music, TV shows, computer games, and even American foods. However, the American culture itself is often poorly understood in Taiwan, because its elements are not translated into the language which people use on the daily basis, or because the culture is not truly represented in the music, video and other elements exported to Taiwan. In this study, American culture was directly introduced through the videoconferencing interactions. In students' opinions, actual interactions with the American native speaker allowed students to experience American culture more intimately, providing a strong connection with their own lives.

Conclusions

This study used statistical tools rarely, if ever, used previously to evaluate student-centered active learning classrooms with authentic source materials. The data-based findings using these advanced analysis tools indicate that the most fundamental factor in elevating all three learning variables is enjoyment. This is also intuitive, because students who are bored or who do not see the value in a course will not apply themselves. Because student-centered active learning improves enjoyment, EFL instructors must make this a priority in their instructional design. As part of this, the findings indicate that teachers should strive to offer their students successful interactions with native speakers, or excellent speakers of English from any other culture, on topics of particular interest to the students. Such successful, and therefore enjoyable, interaction builds student motivation and eventually leads to improvements in ability and confidence. The real benefit of such an instructional design is not just making students more willing to participate in videoconferences, but rather making them more confident in every kind of interaction in English, and also improving their English ability. Any type of positive communicative experience in the target language or with the target culture will ultimately strengthen the confidence of students, enhance their motivation, and, in turn, improve their ability.

The significance of this study, and its contribution to the academic literature, is that it suggests that use of technology in EFL instruction should always stress interaction and active communication, using both formal and informal dialog, and with scenarios for interaction that are as authentic, frequent, and enjoyable as possible. This is in contrast to many past efforts to use videoconferencing for foreign language enrichment, which have too often been staged as one-time "stunts" that had little role to play in the overall lesson plan or the curriculum design of the semester (O'Dowd, 2005). The benefit of, and best practices for, use of CMC technology in EFL instruction is a vital issue today, and this study shows that well designed interaction via Internet videoconference offers learners a usable, familiar medium for real communication that builds the "habit" of using English regularly.

Limitations of this study include that it is based at one technical university in Taiwan and it may not be appropriate to generalize it to other populations of EFL students. It also examines one particular repeated use of videoconferencing as part of a larger student-centered instructional design. Teacher-centered approaches may produce different results. Furthermore, the data is based on student perceptions of personal motivation, confidence and ability. Future research could employ external validation of changes in these learning variables.

The authors recommend that teachers employ scaffolding as a vital part of online interaction, allowing teachers to lead the students to become more and more independent and thus more confident in their interactions. Furthermore, instructors should understand that motivations to study English for men and women and for students of different ages may be different and use appropriate approaches to trigger their respective motivations.

One goal of any academic program should be to provide a foundation from which students can further develop their own ability to adapt and continue learning on their own. This study shows that in EFL realms, technology makes it possible to provide opportunities more commonly found only when there is a surrounding population of native speakers, and thus helps transform traditionally passive learners into more engaged and interactive learners. The data shows that even a relatively small amount of positive authentic interaction in the target language made students more comfortable in applying their skills, more confident in what they learned, and more inspired to make global, cross-cultural connections. Therefore, this instructional design positively influenced what Dörnyei called the vision of self of the students, promoting the idea of being able to function in the cosmopolitan 21st century international culture and leading to stronger overall EFL motivation, confidence, and ability.

Acknowledgements

This project was partially supported by the Taiwanese National Science Council grant #NSC 98-2410-H-126-033.

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