EMOTIONS AND PAIR TRUST IN ASYNCHRONOUS HOSPITALITY CULTURAL EXCHANGE FOR STUDENTS IN TAIWAN AND HONG KONG

Associate Professor Dr. Mei-jung Wang
Chair of Dept. of Applied English, National Kaohsiung University of Hospitality & Tourism, TAIWAN
sebrina@mail.nkuht.edu.tw

Assistant Professor Dr. Hsueh Chu Chen
Dept. of Linguistics and Modern Language Studies, Hong Kong Institute of Education, HONG KONG
hsuehchu@ied.edu.hk

ABSTRACT
Social and emotional dynamics have an impact on students' learning processes in online-learning situations. This study explores university students' emotions and trust levels resulting from collaborative communication behaviors when they interacted as part of a Food and Tourism course in Taiwan and Hong Kong. More specifically, students' emotions and trust levels were investigated and were founded to have varied over the course of the study. Results show that the Taiwan-based participants seemed to express their emotions more strongly than the Hong Kong-based ones. Both the Hong Kong and Taiwan groups generally felt satisfied, excited and curious, whereas they were sometimes perceived to be dispirited, insecure and angry while the project was in progress and at the end of the project. The three sources that caused most emotional comment were *self*, *social* and *others*. When it came to dealing with emotion, most students tried to solve problems by themselves. They believed that they had the ability to solve the problems and held themselves responsible for dealing with their own emotions. The pair trust survey shows that both groups gave positive responses for all items, but there seemed to be a gap between the perception of pair trust and the reality of dealing with emotion.

INTRODUCTION
Interest in food issues has surged in recent years, both in popular culture and among students and academics. Food is a part of popular culture, and the beliefs, identities, and trends in a culture affect eating habits. With the strong trend toward globalization, enhancing cross-cultural understanding through exchanges between university students from different regions will help increase students' international competitiveness in their studies and subsequent professional lives. E-learning has become particularly attractive for educational purposes in recent years. The existing research pays close attention to the significant potential of text-based interaction within a socio-cultural context (Kitade, 2008; Payne & Ross, 2005).

In social online-learning situations, social and emotional dynamics, such as social-emotional affordances and distributed emotions, are less visible, but nevertheless have an impact on students' learning processes (Wosnitza & Volet, 2005). The importance of the emotional aspect of online learning has been recognized (Derks, Fischer, & Bos, 2008; Ware, 2005; Zembylas, 2008). This study explores college students' emotions resulting from collaborative communication behaviors when subjects interacted during a Food and Tourism course in Taiwan and Hong Kong. In addition, the trust levels of the students were also examined. Finally, students' responses to the project were analyzed.

LITERATURE REVIEW
ICT and cultural learning
With the advanced information and communications technology (ICT) available these days, it is easier to gain resources with access to the Internet. For instance, computer-based or aided language learning has been proven successful (Al Musawi, Askin, Abdelraheem, & Osman, 2012; Baharani, & Sim, 2012; Bower, 2011; Kilimci, 2010; Ware & O'Dowd, 2008; Zhang, Song, & Burston, 2011). Altstaedter and Jones (2009) implemented a project in one of their undergraduate foreign-language courses that promoted a systematic inquiry-based approach to cross-cultural learning. The students completed a series of technology-enhanced tasks using programs such as Web Quests, which typically included an introduction, a task, information sources, a description of the process, guidance on how the information should be organized, and a conclusion (Dodge, 1995). Altstaedter and Jones' study revealed that tasks performed with the aid of computers can directly affect students' motivation and achievement in a positive way and the tasks can be designed in such a way that students find them enjoyable and easy to use.

Several empirical studies have been conducted in relation to ICT and cultural learning (Freiermuth & Huand, 2012; Wang, 2010; Vinther, 2011). Li and Erben (2007) attempted to develop Internet-based language and cultural learning in a more direct way: they implemented an instant-messaging system in their course instruction. In the Chinese language course, students were paired up with native Chinese speakers through online instant-

messaging systems and engaged in cross-cultural interaction. The results showed a steady improvement in student participants' intercultural interaction engagement and attentiveness, and strong development in self-reflection capacities, critical-thinking skills, and greater sensitivity to and respect for intercultural differences. Participants also had predominantly positive attitudes toward e-learning in the context of intercultural learning; they felt the system to be pleasant and convenient to use.

Another study by Vinther (2011) utilized the Internet and involved two groups of students with different native languages and the same target language (L2). The students were able to achieve two things at once: exchanging cultural understandings and practicing their L2. Survey results show that students were content with the method, were more positive toward language learning as a result of using it, and were more interested learning through knowing the other group's culture. Also, it can be seen that, owing to the native languages of the two groups being different, the errors made by the two groups varied. It was therefore a truly co-operative effort to detect and correct errors. These studies show that computers and the Internet can help language and cultural learning, not only in terms of searching for resources, but also in interacting with people from different cultural backgrounds, and excellent results can be achieved through proper material design and guidance.

Using a ubiquitous hospitality English learning platform (Uhelp), Wang (2009) investigated how Internet-based projects can enhance English-language and generic skills in Asian hospitality industry students. The results showed that students responded positively to the learning experiences because of the advantages of the Internet-based projects, such as encouraging co-operation, improving hospitality knowledge, and promoting cognitive skills. However, negative comments related to the time-consuming nature of group work, a preference for traditional paperwork, and problems with using the platform. Wang (2010) further explored online communication and offline interaction between students from two colleges. The implementation of ICT tools in blended learning does promote social interaction among students and student engagement; however, it does not automatically facilitate students' adoption of active learning strategies.

Despite the success of such projects, research conducted by Wang and Ip (2010) using the same platform failed to yield positive results. They held an international tele-collaboration project between Taiwan and Macau, where students from hospitality colleges were required to read three online articles, discuss questions on the discussion board, and conduct an online project. Some challenges emerged during the course, including the dilemma resulting from the misalignment of academic calendars and the decrease in motivation resulting from excessive student workload. During the process of attempting to solve these challenges, the researchers and the students experienced different types of negative emotions, such as feelings of discouragement, anger, and anxiety.

Emotion and trust

Hargreaves (2000, p 811) emphasized "the importance of the emotions as a field of inquiry for deepening our understanding of the nature, conditions and consequences of teaching, learning and leading in schools today." Lyons, Kluender, and Tetsutani's (2005) study demonstrated that the awareness both of our own and others' emotional states can enhance cognitive performance as well as the ability to assess another person's state of mind in an Internet-based learning environment.

If it is accepted that emotions are the forgotten key to success in online learning, as De Lera Fernàndez and Almirall (2009) asserted, more research should be conducted to identify the types of emotions experienced by the teachers and the sources of those emotions. Emotion is defined as "the momentary (acute) and ongoing (chronic, continuous) disturbance within the mind (soul, spirit) caused by the discrepancy between perceived reality and one's desires" (Payne, 1989, p. 2). Derks, Fischer, and Bos (2008) defined emotional communication as the recognition, expression and sharing of emotions or moods between two or more individuals. In humans, emotion fundamentally involves physiological arousal, expressive behaviors, and conscious experience (Myers, 2004). Motivations direct and energize behavior, while emotions provide the affective component to motivation, positive or negative (Gaulin & McBurney, 2003). Emotion directly affects the effectiveness and consequences of learning for both the instructor and the students in a learning environment. It is therefore important to examine the emotions that the teacher and students experience during the implementation of ICT in language studies and in a classroom or online environment.

Previous studies (for example, Wosnitza & Volet, 2005) have indicated that emotions in computer-supported learning could be derived from the participants themselves, the context, task or technology offered, and other people, such as peers and instructors. Ware (2005) indicated that the main provokers of tension in telecommunications are (1) different expectations and norms for tele-collaboration; (2) social and institutional factors: and (3) individual differences in motivation and use of time. Ware believed the above tensions could explain the emotional changes of participants during online communication. Nummenmaa (2007) pointed out

that, although technology is an existing factor in an Internet-based learning environment, what really drives and triggers the emotion are the social aspects of the learning situation, according to the finding that "Student interaction in the learning environment was mentioned as a cause of emotions more often than the technical environment itself" (p. 41). Students who rarely take part in discussions and do not actively interact with their peers, those who are known as "lurkers", generally experience more negative emotions and become less efficient in their learning in an Internet-based learning environment.

As for students who contribute to group discussions, their emotions can come from self awareness and their awareness of others. In an online discussion, it is often the case that comments can be seen by all participants at all times. As a result, students think more carefully before they post their opinions or make comments on what others have said. Also, when they read the opinions of others in the form of online comment, they react emotionally. This might be discouraging to some students and might hinder their participation, but, at the same time, some students might be attracted to this kind of openness and it may lead to their being more active and be the cause of more positive emotions. It can be said that, although the presence of others influences students' interaction in a virtual environment (Tu & McIsaac, 2002), "it is also as important an antecedent of students' affective reactions in a web-based learning environment as it is in face-to-face learning situations" (Nummenmaa, 2007, p. 41).

The integration of ICT into language acquisition and instruction can prove successful with the correct strategy, but both instructors and learners can be faced with negative emotions as computer awareness, interest, and confidence levels can affect the adoption of ICT. Moreover, collaborative online learning requires a level of initial trust, and the failure to establish trust in temporary work groups has a constraining effect on communication (Meyerson, Weick, & Kramer, 1996). People in organizations have known for a long time that trust is an important antecedent of effective teamwork. In particular, trust "has to" develop fast when a group of students is assigned a class project. So, logically, this should hold true not only in face-to-face groups, but also for virtual teams (Carroll, 2007). Building and maintaining trust is acknowledged as a necessary condition for co-operation and a key factor in effective functioning of collaborative computer-mediated groups (Johnson & Johnson, 1975; Lewicki & McAllister, 1998; O'Hara-Devereaux & Johansen, 1994).

Trust has mainly been conceptualized as a process that develops over time (Rempel, Holmes, & Zana, 1985). Ishaya and Macaulay (1999) defined trust as "a characteristic for collaboration where members believe in character, ability, integrity, familiarity and the morality of each other" (p. 145). Iacono and Weisband (1997) showed that teams which contain a high level of trust engage in continuous communication and focus on work content. Jarvenpaa and Leidner (1999) noted that different communication behaviors, including social communication and communication conveying enthusiasm, could change the trust level over time. McNight, Cummings, and Chervany (1998) stressed that it is necessary to understand the mechanisms of initial-trust formation and to be able to predict its effect on communication, performance, and satisfaction.

Although Handy (1995) argued that "trust needs touch" (p. 46), many studies have shown that trust can exist in a virtual environment through team communication and interaction for trust development (Ishaya & Macaulay, 1999; Jarvenpaa & Leidner, 1999; Wu, Wang, Liu, Hu, & Hwang, 2012). Shields, Gil-Egui, and Stewart (2004) suggested that students' apprehension when facing the prospect of working in teams in a virtual environment can be substantially reduced by exploration of the notion of trust as a key element for the successful performance of teams; also helpful is discussion of the concepts of *swift trust*, *community of practice*, and *control* as guiding principles for the establishment of practices that help build mutual reliance among virtual team members in an online classroom. Furthermore, Usta (2012) proposed "Virtual Environment Interpersonal Trust Scale" (VEITS) to manifest the effects of virtual environments on the individuals' real identities and on the sense of trust in interpersonal communication.

Bulu and Yildirim (2008) investigated pre-service teachers' trust levels and collaborative communication behaviors. The subjects consisted of 32 (24 female, 8 male) 3rd-year foreign-language students. The subjects were involved in a four-month online project in the Learning to Teach with Technology Studio (LTTS) course at Indiana University in the US. The findings showed that the groups with different trust levels showed different communication behaviors throughout the study, and the midpoint of the group life was found to be the critical moment for increasing or decreasing the pattern of communication behaviors. Coppola, Hiltz, and Rotter (2001) also studied trust building in virtual teams: the authors designed and conducted 20 semi-structured interviews with faculty. The results revealed that, in order to build swift trust at the beginning of a course, the instructor needs to structure clear contributions for each student to make, help them cope with any technical or task uncertainties, and model and encourage responses to each other's contribution. Moreover, early encouragement of social communications (and explicit statements of commitment, excitement and optimism) also strengthened

trust.

To sum up, trust is a critical component of satisfaction in any kind of experience. Consequently, practitioners of online teaching need to give special attention to trust. Maintaining social interaction throughout the course/program is as important as creating a friendly social environment. They could motivate and encourage groups to build a sense of community. Further research with different learners and in different subject areas could help examine trust and collaboration behaviors in online-learning environments.

Research Questions addressed in this study listed as follows:

1. What are students' emotions resulting from online interaction?
2. What are students' trust levels in online pair work?

METHODS

Subjects

The same number of students from a hospitality college in Taiwan and an institute in Hong Kong participated in this study (44 people, 22 pairs). All of them volunteered for this online project and it was therefore assumed that they were interested in the exchange of hospitality culture and were willing to complete the tasks in their extracurricular time. The 22 students from Taiwan are all students from the Department of Applied English (aged 18-20). They met weekly after an English class and the researcher checked their progress every week. Another 22 students from Hong Kong were all students from the Department of English (aged 19-22). A briefing session lasting 90 minutes was conducted to ensure that all the participants fully understood the purpose of the project and the operation procedure of the online platform. This group of students did not meet weekly, as they dispersed to different classes, but received reminders and technical support from the student helpers as required.

Instruments

In this project, a checklist for emotions, a questionnaire on trust levels, and a questionnaire on the project were implemented. The checklist for emotions was adopted from Kay and Loverock (2008) and Wosnitza and Volet (2005). Kay and Loverock (2008) used four theoretically distinct constructs (anger, anxiety, happiness, and sadness) to assess the emotions of pre-service teachers during computer-based learning. The four emotions were selected after a detailed review of related research and internal reliability and construct validity were statistically proven.It is appropriate to adopt their scales for this study, which aims to assess the emotions of students involved in the online cultural-exchange project. Therefore, this checklist in total includes 12 four-point Likert-type items (1 for none of the time; 2 for some of the time; 3 for most of the time; and 4 for all of the time). Regarding the second part of the analysis of sources of emotions, the checklist was based on Wosnitza and Volet (2005), who investigated the origin, direction, and impact of emotions in social online learning. We added one more open-ended question concerning the methods the subjects utilized to deal with the emotions

The pair-trust questionnaire shown in Table 6, below, was adopted from Bulu and Yildirim (2008) to determine the trust levels of each pair at the end of the study. Bulu and Yildirim investigated university students' trust levels in a four-month online project. The questionnaire had two parts: the first part included ten five-point Likert-type items (5 for strongly agree and 1 for strongly disagree). The second part of the questionnaire included two open-ended questions to gather detailed information from the participants in relation to their levels of pair trust. Finally, four student helpers reflected on the whole process of this project. They self-disclosed their emotional changes and demonstrated personal growth.

Procedures

The project lasted for six weeks, from September to November 2011 (see Table 1, below). The timeline was checked by the two researchers to avoid misalignment of the academic calendars and important examinations.

Table 1: The content of a six-week project of online collaborative learning

Time	Contents
Week 1 (9/26-9/30) Orientation	a. Students (Ss) register and learn the process of the study. b. Ss answer pre-questionnaires online. c. Ss briefly introduce themselves and write a short description of their partner's city.
Week 2 (10/3-10/7)	1. Read Articles 1 & 2: Food & Beverage Culture in Hong Kong/Taiwan. 2. Ss write the first response and then complete the online pair discussions. Discussion question: What are the similarities and differences between food and beverage culture in Hong Kong and Kaohsiung?
Week 3 (10/10-10/14)	1. Read Articles 3 & 4: The Top 10 Hong Kong/Taiwan Destinations among

	Foreign Tourists. 2. Ss write the second article and then complete the online pair discussion. Discussion question: What are your favorite night-market snacks and why?
Week 4 (10/17-10/21)	Each pair writes their pair project (a report on a three-day tour of Taiwan and Hong Kong).
Week 5 (10/24-10/28)	Each pair publishes their pair project online.
Week 6 (10/31-11/4)	Ss answer post-questionnaires online.

Students first read the assigned reading articles and then wrote responses online about hospitality culture and then discussed them in their pair on the discussion board. After they finished all the reading selections, each pair was required to complete an online project (Figures 1 and 2).

Figure 1: Sample page of the reading articles

Figure 2: Sample page of blog list and final project

To keep the project going smoothly, two student helpers from Taiwan and two from Hong Kong monitored the process. They sent reminders via email or Facebook to remind the participants to finish the tasks on time and

report the results to the researchers. In weeks 3 and 6, students filled in the checklist for emotions. At the end of the project, students answered the questionnaires for pair trust and project evaluation. The student helpers also wrote reflections on the challenges they had encountered during the process, as well as their own personal growth and development.

The collected data were analyzed according to two perspectives: qualitative and quantitative. With regard to qualitative analyses, the primary data source was the transcripts of interaction between students in the blogs. In this study, there were in total 307 messages (151 from Hong Kong and 156 from Taiwan) posted during the research period.

RESULTS AND DISCUSSION

In this section, the emotional changes of the Hong Kong and Taiwan groups in weeks 3 and 6 are initially reported. The sources for the students' emotions are then summarized. Ways to deal with emotions are discussed. Finally, the results of pair trust questionnaire are analyzed in detail.

The emotions students demonstrated were divided into four major categories: happiness, sadness, anxiety, and anger. Happiness includes satisfied, excited and curious states; sadness includes disheartened and dispirited states; anxiety includes anxious, insecure, helpless, and nervous states; and anger includes irritable and frustrated states. The checklist includes 12 four-point Likert-type items (0 for none of the time and 3 for all of the time).

The reliability of the emotions checklist employed in the present study in weeks 3 and 6 are both higher than 0.7 using Cronbach's alpha coefficient of internal consistency. The values reached the satisfactory level (≥0.7), according to Nunnally and Bernstein (1994).

Table 2, below, shows the emotional changes categorized by four constructs expressed by Hong Kong students and Taiwan students in weeks 3 and 6. For most constructs, the Taiwan-based students had a higher mean and standard deviation than the Hong Kong students. Looking closely at the average values of the two groups of students in weeks 3 and 6, Taiwanese students showed stronger feelings (1.83 and 1.72 on average) than their Hong Kong counterparts (1.67 and 1.59). Taiwanese students more frequently chose "most of the time" in the questionnaire than their Hong Kong counterparts and expressed their feelings more strongly.

Table 2: The emotion changes categorized by four constructs

		HK Week 3		Taiwan Week 3		HK Week 6		Taiwan Week 6	
		M	SD	M	SD	M	SD	M	SD
Happiness	1.Satisfied 5. Excited 9. Curious	2.43	.613	2.73	.769	2.55	.575	2.50	.557
Sadness	2. Disheartened 6. Dispirited	1.48	.550	1.53	.617	1.35	.540	1.55	.510
Anxiety	3. Anxious 7. Insecure 10. Helpless 11. Nervous	1.44	.327	1.54	.519	1.29	.329	1.41	.354
Anger	4. Irritable 8. Frustrated 12. Angry	1.32	.524	1.52	.577	1.17	.333	1.42	.417
	Average	1.67	0.5	1.83	0.62	1.59	0.44	1.72	0.46

Concerning the emotional changes in weeks 3 and 6, shown in Figure 3, below, the means decreased. For the Hong Kong group, the happiness category increased and the other three decreased; for the Taiwan group, sadness increased slightly and the rest decreased. It seems that the Hong Kong participants were happier in the sixth week of the project than they were in the third week. The Taiwanese participants, however, reacted in the opposite fashion, as can be seen from the relatively large decrease in the mean of the happiness construct. As the project progressed, the students had more intense experiences of each type of emotion and the group as a whole had more similar comments regarding each of them. However, there is no statistical significance in the differences between the emotional changes of the Hong Kong and Taiwan participants in weeks 3 and 6 seen in the paired sample t-test ($P > .05$).

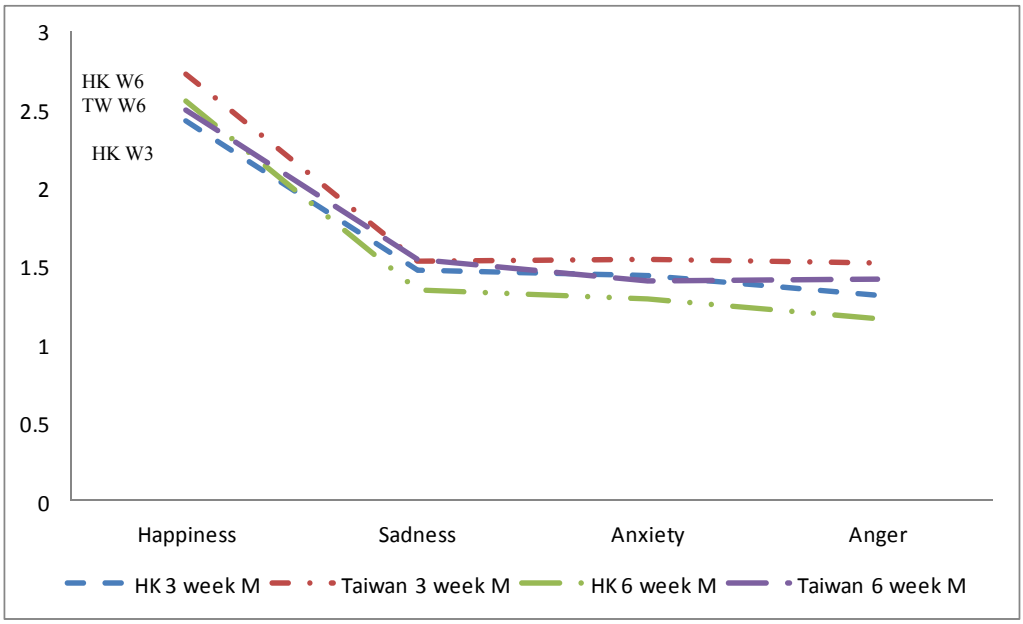

Figure 3: The four constructs of the emotions in weeks 3 and 6

Comparing the emotions of the two groups in the two timelines shown in Table 3, above, both the Hong Kong and Taiwan students generally felt satisfied, excited, and curious (all the *means* □2.2) in week 3, whereas they were sometimes perceived to be dispirited, insecure, and angry (all the *means* □2.0) while the project was in progress. The Taiwan students showed a little more anxiety and nervousness than the Hong Kong students. At the end of the project, in week 6, both of the groups in general remained satisfied, excited and curious (all the *means* □2.2), whereas they were from time to time perceived to be disheartened, irritable, insecure, frustrated, helpless, and angry (all the *means* <2.0) during the concluding week of the project.

There is statistical significance in the differences arising in the results of the independent sample t-test between the Taiwan and Hong Kong groups in their nervousness (P <.01) and anxiety (P <.05). Relatively speaking, Taiwan students felt a little more irritable, dispirited, and angry than their Hong Kong counterparts.

Table 3. The emotions of the Hong Kong and Taiwan groups in weeks 3 and 6

	Groups	M		SD		t (independent sample t-test)		Sig.	
		3rd week	6th week	3rd week	6th week	3rd week	6th week	3rd week	6th week
1. Satisfied	HK	2.50	2.90	.688	.641	-1.070	1.902	.291	.065
	Taiwan	2.75	2.50	.786	.688				
2Disheartened	HK	1.60	1.45	.681	.686	.000	-.244	1.000	.809
	Taiwan	1.60	1.50	.681	.607				
3. Anxious	HK	1.55	1.45	.510	.510	-2.269*	-2.284*	.029	.028
	Taiwan	2.00	1.90	.725	.718				
4. Irritable	HK	1.35	1.20	.587	.410	-1.170	-1.831	.249	.076
	Taiwan	1.60	1.50	.754	.607				
5. Excited	HK	2.20	2.55	.696	.686	-2.015	.489	.051	.628
	Taiwan	2.70	2.45	.865	.605				
6. Dispirited	HK	1.35	1.25	.489	.550	-.531	-1.926	.599	.062
	Taiwan	1.45	1.60	.686	.598				
7. Insecure	HK	1.40	1.30	.503	.571	.825	.309	.414	.759
	Taiwan	1.25	1.25	.639	.444				
8. Frustrated	HK	1.40	1.25	.681	.550	-.737	-1.192	.466	.241

	Taiwan	1.55	1.45	.605	.510				
9. Curious	HK	2.60	2.20	.883	.834	-.497	-1.334	.622	.190
	Taiwan	2.75	2.55	1.020	.826				
10. Helpless	HK	1.60	1.45	.598	.605	-.211	.575	.834	.569
	Taiwan	1.65	1.35	.875	.489				
11. Nervous	HK	1.30	1.10	.470	.308.	-2.055*	-2.994*	.047	.006
	Taiwan	1.70	1.60	733	.681				
12. Angry	HK	1.20	1.05	.523	.224	-1.042	-1.823	.304	.081
	Taiwan	1.40	1.30	.681	.571				

*P<.05

The students' feedback, collected twice, in week 3 and week 6, were examined. Table 4, below, includes three columns: the *sources*, *frequency* and *examples*. The sources refer to where the students thought their emotions came from, and the frequency states the frequency with which each type of emotion was experienced. The right-hand column gives examples of the comments made by participants regarding each source of emotion.

Table 4: The sources of emotions

The sources	Frequency (Week 3/Week 6)	Examples
1. Self	14/14	"I sometimes had two or three projects (including this project) to hand out in the same week."
2. Tasks	9/11	"It takes too much time to complete this project."
3. Performance	10/11	"The summary or the reading response I wrote is not good enough."
4. Contexts	11/11	"The project could last longer, so that we can know more and get more information from partners."
5. Social	14/17	"Sometimes, I didn't receive his/her discussion. I felt he/she wasn't concerned about these missions."
6. Others	11/15	"Worthwhile and educational, but very time-consuming and may be frustrating for students with very little time on their hands."

The sources are divided into six categories: self, tasks, performance, contexts, social, and others (which include technical problems). The data show that every type of emotional source was mentioned. During the third week, the lowest number of cases for any sources was nine (tasks) and the most was 14 (self and social). For the sixth week, the lowest number was 11 (tasks, performance and contexts) and the largest was 17 (social). As the course progressed, it might have been the case that more emotions were involved, as shown in the rise in numbers. The three sources that caused most emotional comment are *self*, *social,* and *others*. Cases where emotion came from the students themselves stayed the same across the two evaluations, whereas social issues and others increased. The examples reveal that some students had problems managing their time with other schoolwork, while some had slight problems communicating with other members of their group. Tasks, performance, and contexts received a similar number of mentions, slightly lower than the other three categories. One possible explanation for this is that, since students volunteered for the project, they understood what they were required to do; however, social interaction, technical problems, and a heavy workload were not necessarily what they would have expected.

Table 5, below, analyses the ways in which students chose to deal with their emotions; in other words, who they turned to for support after experiencing strong emotions. The data reveal that, when it comes to dealing with emotion, most students tried to solve problems themselves. They believed that they had the ability to solve the problems and held themselves responsible for dealing with emotion. Out of the 59 cases recorded, almost half (27) of them saw students dealing with emotion-related issues alone. The second most used resource was peers. The students found suggestions from peers to be useful and discussions to be effective in dealing with emotion. Students also found help from student helpers. The student helpers were confident and committed to the project, and the students appreciated their willingness to help. Some students sought help from their partners. They commented that working as a pair meant helping each other. This resource, however, was least used out of the four noted in the students' comments.

Table 5: Ways to deal with emotions

Ways to deal with emotions	Frequency	Examples
1. Self	27	1. "I have the responsibility to do so." 2. "I could solve all emotional problems by myself."
2. Peers around me	14	1. "Because we all take part in this project, "if I have any confusion or problems, they will suggest to me what I can do to improve my project." 2. "During the discussion with my peers around me, I can get more comments from others."
3. Partner	7	1. "We are teammates, and it will be better if we give a hand to each other." 2. "[Because] they are my peers, [they know] what I'm thinking about."
4. Student helper	11	1. "The student helpers are very kind and they really show their passion for this project. Whenever I encountered any problems, I would consult them, as they always showed confidence in me." 2. "Student helpers are willing to help."

To sum up, the fact that both groups had the highest mean for the happiness construct indicates that, overall, the participants experienced happy emotions for the majority of the project. The category with the second-highest mean average was sadness, followed by anxiety, and, finally, anger. There is no significant difference between the emotions students experienced in undertaking different tasks as the project progressed. As pointed out by Wosnitza and Volet (2005), "The outcome of the emotion-arousal process is influenced by the degree of familiarity and its personal relevance to the individual's agendas" (p. 460).

We may infer from the fact that students from both parties volunteered for this project that they were, therefore, highly interested in this kind of cultural exchange, so the initial and ongoing appraisals of the activities tended to be positive, which supported the process of learning (see, for example, Zembyless, 2008). This also partially explains the success of this project compared with the previous studies (the low interaction, more negative emotions) (Wang 2010; Wang & Ip, 2010). Participants in this project perceived it to be relevant to them and tried to invest time and mental energy in completing the tasks assigned. As for the sources and ways to handle emotion, students in this project experienced a range of self-, task- and technology-directed emotions and otherwise-directed emotions, as discussed in Wosnitza and Volet's (2005) study and tended to handle those emotions by themselves.

Results of pair-trust study

The first part of the pair-trust questionnaire included 10 five-point Likert-type items (5 for strongly agree =SA; 4 for agree =A; 3 for neutral=N; 2 for disagree=D) and 1 for strongly disagree=SD). Only 35 students (15 from the HK group and 20 students from the Taiwan group) answered the questionnaire. The reliability of the questionnaire was 0.7. Table 6, below, describes the degree of trust from the two groups of participants toward their peers, as observed through the questionnaire results.

Table 6：Results of pair-trust study (HK(N=15) & Taiwan(N=20))

	groups	1 Strongly disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly agree	M	Std.	t	Sig.
1. My partner shows a great deal of integrity.	HK	-	-	40.0	53.3	6.7	3.67	.617	-.631	.532
	Taiwan	-	10.0	25.0	35.0	30.0	3.85	.988		
2. I can rely on my partner.	HK	-	6.7	40.0	40.0	13.3	3.60	.828	-.792	.434
	Taiwan	-	15.0	10.0	50.0	25.0	3.85	.988		
3. Overall, the people in the other school are very trustworthy.	HK	-	-	40.0	40.0	20.0	3.80	.775	.295	.770
	Taiwan	5.0	5.0	35.0	25.0	30.0	3.70	1.129		
4. We are usually	HK	-	-	40.0	53.3	6.7	3.67	.617	.060	.953

considerate of each other's feelings in this work pair.	Taiwan	5.0	5.0	20.0	60.0	10.0	3.65	.933		
5. The people in my school are friendly.	HK	-	-	13.3	80.0	6.7	3.93	.458	-.413	.683
	Taiwan	5.0	5.0	15.0	30.0	45.0	4.05	1.146		
6. There is no 'team spirit' in my pair.	HK	26.7	13.3	53.3	6.7	-	2.40	.986	1.001	.324
	Taiwan	25.0	40.0	35.0	-	-	2.10	.788		
7. There is a noticeable lack of confidence for my partner.	HK	20.0	33.3	40.0	6.7	-	2.33	.900	-.219	.828
	Taiwan	20.0	25.0	50.0	5.0	-	2.40	.883		
8. We have confidence in each other in this pair.	HK	-	-	40.0	53.3	6.7	3.67	.617	-.121	.905
	Taiwan	5.0	-	30.0	50.0	15.0	3.70	.923		
9. I feel anxious when working with students from the other place.	HK	20.0	40.0	33.3	6.7	-	2.27	.884	-.694	.492
	Taiwan	20.0	30.0	30.0	20.0	-	2.50	1.051		
10. I feel nervous when getting no response from my partner.	HK	6.7	26.7	40.0	26.7	-	2.87	.915	-.733	.469
	Taiwan	15.0	10.0	35.0	25.0	15.0	3.15	1.268		

Both groups gave positive responses in terms of peer trust for all items. That is, the majority chose "agree" or "strongly agree" for items that reflected positive peer trust and interactions and chose "disagree" or "strongly disagree" for negative items, and the groups had similar mean values for all items. The first five items related to positive features of the students' partners, fellow school members and participants from the other group. Results reveal that 60% of the Hong Kong group and 65% of the Taiwan group agreed or strongly agreed that their partners had great integrity. When asked if they found their partners reliable, barely over half (53%) of the Hong Kong participants agreed or strongly agreed as opposed to 75% of the Taiwan group. For this item, 40% from the Hong Kong group chose "neutral." The Taiwan-based participants may have found their partners more reliable than their Hong Kong counterparts. There was, however, one case in which the majority of one group chose "neutral." When it came to being considerate of each other's feelings, the two groups had "agrees" and "strongly agrees" as the majority of their choices, yielding 60% and 70%, respectively. Eighty-seven percent of the Hong Kong group agreed that other students in their school were friendly as did 75% of the Taiwan group.

Items six and seven concerned negative aspects of the students' relationships with their partners and no one from the two groups chose "strongly agree." The means of these two items were low compared to those of the items above. However, it can be observed that over half (53%) of the Hong Kong students chose "neutral" for item six, not commenting on whether they thought there was team spirit in their pair work. The Taiwan group also had 35% who chose "neutral" for this item, and half of this group chose "neutral" for the next item, not giving positive nor negative opinions as to whether there was a lack of confidence in them from their partners. It may also be noted that 40% of the Hong Kong group chose "neutral" for item seven.

In spite of this, it was evident that members of both groups were confident in their partners. As the results of item eight indicate, although there were still a relatively high percentage (40% for the Hong Kong group and 30% for the Taiwan group) who remained neutral, all others except one member in the Taiwan group chose "agree" or "strongly agree" for this item. Working as a pair, the students generally had confidence in each other. When asked whether they were anxious when working with students from the other place, 60% of the Hong Kong participants disagreed or strongly disagreed, indicating that over half of them were not anxious. Only half of the Taiwan group disagreed in relation to this item, 30% of them were neutral and 20% agreed that they were anxious, as opposed to the low percentage of 6.7% from the other group.

If their partners did not respond to them, some of them felt nervous. Although many students chose "neutral" on this issue (40% of the Hong Kong group and 30% of the Taiwan group), 26.7% from the Hong Kong students and one-quarter of the Taiwan students did feel nervous when getting no response from their partners. In all items except for items six and seven, the Taiwan group had a higher standard deviation, meaning their range of choices was wider than that of the Hong Kong participants. As the mean values were not far apart, no significant differences were found when the t values were calculated.

The above results show that trust has been built up in the course of this project. This lends support to Wang, Sierra, and Folger's (2003) finding that "Trust channels the energy of group members toward reaching goals and serves to motivate group processes and performance" (p. 57). Efforts were made to carefully plan the schedule and provide students with "scaffolding" during the project: 20 pairs out of 22 finished the project. However, when looking closely at Tables 6 and 7, there seems to be a gap between the perception of trust and the actions taken in dealing with emotion. Participants perceived positive peer trust, but did not seek help from peers. That is, participants did not like to seek assistance from the distant party and preferred to rely on themselves, the peers around them and the student helpers. Owing to the asynchronous nature of the interaction in the present study, participants disregarded the possibility of delayed help so as to reduce the potential trouble caused and accelerate the completion of the tasks. Another possible explanation is that, in the context of CMC, participants tended to reduce negative social appraisals (Derks, Fischer, & Bos, 2008) and tried to maintain friendly social interaction and focus on task-oriented communication (Bulu & Yildirim, 2008). More in-depth investigation should be made to reveal more details about the correlation of perceptions of peer trust and the collaboration behaviors in online-learning environments.

CONCLUSION AND IMPLICATIONS

This study examined Hong Kong- and Taiwan-based students' emotions resulting from online interaction and their trust levels in online pair work. The major findings are summarized as follows. In general, the Taiwan students expressed their feelings more strongly than their Hong Kong counterparts. There is a statistical significance in the differences between the Taiwan and Hong Kong groups in the emotions of nervousness and anxiety. The Taiwan students felt slightly more irritable, dispirited and angry than the Hong Kong students during this process. Regarding the two timelines, the Hong Kong students were happier in week 6 than in week 3. The Taiwan participants, however, felt the opposite. Three sources that caused most emotional comments are self; social; and others (for example, technical problems and workload). Most students attempted to solve problems for themselves, then with help from peers, then from students helpers, and finally from their partners. Both groups gave positive responses in terms of peer trust for all items. However, there seemed to be asymmetry between the perception of trust and the actions taken in dealing with emotion.

There are some limitations to this study. First of all, the project only lasted for six weeks, so that the emotions assessed are mainly of a "snapshot" nature, as they were only recorded in weeks 3 and 6. In addition, students only recorded the emotions listed in the checklist and seldom detailed any other emotions they encountered during the process. Finally, given the complicated interaction of the variables involved in computer-mediated communication activities, fully investigating the emotional arousal in a single project is impossible.

In terms of teaching implications, first of all, the Taiwan students demonstrated their emotions more strongly than the Hong Kong group. This may be because students from Taiwan had received fewer opportunities for international contact than their Hong Kong counterparts. Most of the Hong Kong participants in this study had either had one-semester immersion experiences in English-speaking countries or attended summer exchange programs in Asian or European countries. It was not a new experience for them to participate in intercultural communication, and this may have contributed to their ease during the process. More online cultural-exchange courses could be provided to those who are not easily able to visit a foreign country. Secondly, to implement an online cultural-exchange course is not an easy task. Most of the teachers have usually placed too much focus on platform design and material preparation. Several factors should be more carefully considered: for example, matching the schools' schedules; partnership, and commitment between the teachers of the two schools; and the students' willingness and autonomy. Building up peer trust and helping deal with emotional changes are essential to keeping all the participants together and making the course successful.

On the basis of the findings, some suggestions for future research may be made. Much existing research stresses that the affective aspects must be properly acknowledged in order to explore the students' emotions, which are aroused by participating in online language activities, and the impact of emotions on learning outcomes. Moreover, the lack of emotional disclosure may result from personal characteristics or culture background. In fact, the expression of negative emotions is not always a bad phenomenon. As Derks, Fischer, and Bos (2008) pointed out, the reasons why students do or do not disclose their emotion and how this influences their learning is another area worthy of research. Finally, just as students need scaffolding in learning, it behooves researchers to consider exploring the emotions teachers encounter in dealing with the frustration and challenges resulting from maintaining online learning progress. What are the emotions aroused in the process when teachers apply ICT in their teaching? How do they deal with these emotions? How do these emotions influence teachers' use of ICT? It is essential to support teachers who are willing to adopt ICT in language learning. The more support the teachers receive, the more strength they have to sustain innovation in ICT teaching strategies.

ACKNOWLEDGEMENT

This work was supported by the Centre for Popular Culture and Education at the Hong Kong Institute of Education, and the National Science Council in Taiwan [grant number 100-2511-S-328-001-].

REFERENCES

Al Musawi, A., Askin, A., Abdelraheem, A., & Osman, M. (2012). A Case of web-based inquiry learning model using learning objects. *The Turkish Online Journal of Educational Technology, 11*(1), 1-9.

Altstaedter, L., & Jones, B. (2009). Motivating students' foreign language and culture acquisition through web-based inquiry. *Foreign language annals*, *42*(4), 640-657.

Bower, J. (2011). Negotiation of meaning and corrective feedback in Japanese/English eTandem. *Language Learning & Technology, 15*(1), 41-71.

Baharani, T., & Sim, T. S.(2012). Informal language learning setting: Technology or Social interaction? *The Turkish Online Journal of Educational Technology, 11*(2),

Bulu, S. T., & Yildirim, Z. (2008). Communication behaviors and trust in collaborative online teams. *Educational Technology & Society*, *11*(1), 132-147.

Carroll, A. (2007). Team assessment task for management accounting: A divisional management case study approach. *E-Journal of Business Education & Scholarship of Teaching, 1*(1), 70-78.

Coppola, N., Hiltz, S. R., & Rotter, N. (2001). Building trust in virtual teams. *Proceedings of International Professional Communication Conference*, Santa Fe, New Mexico.

Derks, D., Fischer, A. H., & Bos, A. R. (2008). The role of emotion in computer-mediated communication: A review. *Computers in Human Behavior*, *24*(3), 766-785.

Dodge, B. (1995). Some thoughts about Web-Quests. Retrieved October 26, 2011, from http://WebQuest.sdsu.edu/about_WebQuests.html

De Lera, E., Fernández, C., & Almirall, M. (2009). Emotions: the forgotten key success in online learning. // 13th UNESCO-APEID International Conference and World Bank-KERIS High Level Seminar on ICT in Education, Hangzhou, China, 15 - 17 November 2009. Retrieved October 26, 2011, from http://www.unescobkk.org/fileadmin/user_upload/apeid/Conference/13th_Conference/Papers/3.D.1_Emotion__Eva__updated.pdf (2010-03)

Freiermuth, M. R. && Huand, H. C. (2012). Bringing Japan and Taiwan closer electronically: A look at an intercultural online synchronic chat task and its effect on motivation. *Language Teaching Research, 16,* 61-88.

Gaulin, S. J. C., & McBurney. D. H. (2003). *Evolutionary psychology* (2nd ed.). Prentice Hall: Upper Saddle River, NJ.

Hargreaves, A. (2000) Mixed emotions: teachers' perceptions of their interactions with students. *Teaching and Teacher Education*, *16*, 811–826.

Handy, C. (1995). Trust and the virtual organization. *Harvard Business Review, 73*(3), 40-50.

Iacono, C. S., & Weisband, S. (1997). Developing trust in virtual teams. *Proceedings of the 30th Hawaii International Conference on System Sciences*, Hawaii, 412-420.

Ishaya, T., & Macaulay, L. (1999). The role of trust in virtual teams. *Electronic*
Journal of Organizational Virtualness, 1, 140-157.

Johnson, D. W., & Johnson, R. T. (1975). J*oining together: Group theory and group skills*. Englewood Cliffs, NJ: Prentice-Hall.

Jarvenpaa, S. L., & Leidner, D. E. (1999). Communication and trust in global virtual
teams. *Organization Science*, *10*(6), 791-815.

Kay, R. H., & Loverock, S. (2008). Assessing emotions related to learning new software: The computer emotions scale. *Computers in Human Behavior, 24*(4), 1605-1623.

Kilimci, S. (2010). Integration of the Internet into a language curriculum in a multicultural society. *The Turkish Online Journal of Educational Technology, 9*(1), 107-113.

Kitade, K. (2008). The role of offline metalanguage talk in asynchronous computer-mediated communication. *Language Learning & Technology, 12*(1), 64-84. http://llt.msu.edu/vol12num1/kitade/default.html

Lewicki, R. J., McAllister, D. J., & Bies, R. J. (1998). Trust and distrust: New relationships and realities. *Academy of Management Review, 23*, 438-458.

Li, J., & Erben, T. (2007). Intercultural learning via instant messenger interaction. *CALICO Journal, 24*(2), 291-311.

Lyons, M. J., Kluender, D., & Tetsutani, N. (2005). Supporting empathy in online learning with artificial expressions. *Educational Technology & Society, 8*(4), 22-30.

McKnight, D. H., & Cummings, L. L. and Chervany, N. L. (1998). Initial trust formation in new organizational relationships. *Academy of Management Review, 23*, 473–490.

Meyer, K. A. (2004). Evaluating online discussions: Four different frames of analysis. *Journal of Asynchronous Learning Networks, 8*(2), 101-114.

Meyerson, D., Weick, K. E., & Kramer, R. M. (1996). Swift trust and temporary groups. In R. M. Kramer & T. R. Tyler (Eds.), *Trust in organizations: Frontiers of theory and research* (pp. 166-195). Thousand Oaks, CA: Sage.

Nummenmaa, M. (2007). Emotions in a web-based learning environment. Dissertation of University of Turku, Finland. Retrieved 30 August, 2011, from: https://www.doria.fi/bitstream/handle/10024/27232/B304.pdf?sequence=1

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw Hill.

O'Hara-Devereaux, M., & Johansen, R. (1994). *Global work: Bridging distance, culture and time.* San Francisco: Jossey-Bass Publishers.

Payne, F. E. (1989). A definition of emotions. *Journal of Biblical Ethics in Medicine*, *3*(4), 1-9.

Payne, J. S. & Ross, B. M. (2005). Synchronous CMC, working memory, and L2 oral proficiency development. *Language Learning & Technology, 9*(3), 35-54.

Rempel, J. K., Holmes, J. G., & Zana, M. P. (1985). Trust in close relationships. *Journal of Personality and Social Psychology, 49*, 95-112.

Shields, S. F., Gil-Egui, G., & Stewart, C. M. (2004). Certain about uncertainty: strategies and practices for virtual teamwork in online classrooms. In Monolescu , D., Schifter , C., & Greenwood , L (Eds.), *The distance education evolution: issues and case studies*, pp. 116 – 141. Hershey, IGI Publishing.

Tu, C. H., & McIsaac, M. S. (2002). An examination of social presence to increase interaction in online classes. *American Journal of Distance Education, 16*(2), 131-150.

Usta , E. (2012). Virtual environment interpersonal trust scale: Validity and reliability study. *The Turkish Online Journal of Educational Technology, 11*(3), 393-402.

Vinther, J. (2011). Enhancing motivation with cultural narratives in computer-mediated communication. *Computer Assisted Language Learning*, *24*(4), 337–352.

Wang, M. J. (2009). Web based projects enhancing English language and generic skills development for Asian hospitality industry students. *Australasian Journal of Educational Technology, 25*(5), 611-626.

Wang, M. J. (2010). Online collaboration and offline interaction between students using asynchronous tools in blended learning. *Australasian Journal of Educational Technology*, *26*(6), 830-846.

Wang, M. Sierra, C., & Folger, T. (2003). Building a dynamic online learning community among adult learners. *Educational Media International*, *40*(1/2), 49-61.

Wang, M. J. & Ip, K. I. (2010). Tasks and challenges faced by teachers in handling an online project. *Asian EFL Journal, 12*(4), 143-158.

Ware, P. (2005). "Missed" communication in online communication: Tensions in a German-American telecollaboration. *Language Learning & Technology, 9*(2), 64-89.

Ware, P. D., & O'Dowd, R. (2008). Peer feedback on language form in telecollaboration. *Language Learning and Technology, 12*(1), 43-63.

Wu, S. T., Wang, S. T., Liu, Z. F. Hu, D. C. & Hwang, W. Y. (2012). The influences of social self-efficacy on social trust and social capital – A case study of Facebook. *The Turkish Online Journal of Educational Technology, 11*(2), 246-254.

Wosnitza, M., & Volet, S. (2005). Origin, direction and impact of emotions in social online learning. *Learning and Instruction, 15*(5), 449-464.

Zhang, H., Song, W. & Burston, J. (2011). Reexamining the effectiveness of vocabulary learning via mobile phones. *The Turkish Online Journal of Educational Technology, 10*(3), 203-214.

Zembylas, M. (2008). Adult learners' emotions in online learning. *Distance Education*, *29*(1), 71-87.