# COLLABORATIVE E-MAIL EXCHANGE FOR TEACHING SECONDARY ESL: A CASE STUDY IN HONG KONG

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## ABSTRACT

This article presents data from a qualitative case study examining secondary ESL students' attitudes toward and perceptions of a collaborative e-mail exchange between a Form 4 (10th grade) ESL class in Hong Kong and an 11th grade English class in Iowa. The exchange was based on a researcher-designed instructional model, utilizing widely accepted theories and methods for modern second language instruction: cooperative learning, communicative language learning, process writing, project-based learning, and an integrated approach.

After exposure to the exchange, Hong Kong students were questioned about (a) changes in attitude towards computers and language learning; (b) effect of computer background on attitude, interest, and motivation; (c) perception of their acquired reading, writing, speaking, and listening skills; and (d) attitude towards cooperative learning. Data was collected primarily from pre- and post-model surveys and personal interviews.

The majority of Hong Kong participants said they enjoyed the exchange, gained general confidence in English and computer skills, and felt that they made significant progress in writing, thinking, and speaking. They were, however, ambivalent as to whether it improved standardized exam-related skills such as grammar usage and discrete language functions. As the project progressed, students with strong computer skills indicated less satisfaction than those with weak computer skills.

## INTRODUCTION

Over the past two decades, computers have become common instructional tools in the ESL classroom. Today, collaborative, multinational e-mail exchanges are just one of many computer-based activities that ESL teachers utilize in hopes of increasing student language proficiency.

Previous research suggests that computer-mediated communication (CMC) can facilitate communication (Cooper & Selfe, 1990), reduce anxiety (Kern, 1995; Sullivan, 1993), increase oral discussion (Pratt & Sullivan, 1994), develop the writing/thinking connection (Warschauer, Turbee, & Roberts, 1996), facilitate social learning (Barker & Kemp, 1990), promote egalitarian class structures (Cooper & Selfe, 1990; Sproull & Kiesler, 1991), enhance student motivation (Warschauer, 1996a), and improve writing skills (Cohen & Riel, 1989; Cononelos & Oliva, 1993; Warschauer, 1996b). In light of these positive effects, an increasing number of ESL teachers have embraced CMC exchanges. Yet, many have done so without access to well-designed instructional models or guidelines that incorporate sound pedagogy, theory, and an integrated curriculum. Several researchers have stressed the importance of theoretical research for CMC exchanges (Brandl, 2002; Chapelle, 1997; Gonzalez-Bueno,1998), while others have called for pedagogically sound methods (Cooper & Selfe, 1990; Cummins & Sayers, 1990, 1995) and sensible curricular integration (Garrett, 1991; Warschaurer, 1996b).

With these points in mind, the instructional model used in this study incorporated several recommended elements into its design: (a) new, student-centered paradigms; (b) an integrated approach for combining computers and language learning; and (c) academically sound pedagogy, methods, and theory for teaching secondary ESL students.

New paradigms in language learning have been found to be well-suited for CMC exchanges, including those which are open, inclusive, non-hierarchical, consensus-based, and/or product-oriented (Barker & Kemp, 1990; Brandl, 2002; Cummins & Sayers, 1995; Kern 1995, 1996). Using these, educators can focus on student-centered instruction, where the teacher is a coach and coordinator, rather than teacher-centered, "information transfusion"-type instruction. Students can also create non-traditional forums where they learn through engaging in discourse and reexamining authoritarian values (Cooper & Selfe, 1990).

New, maturing pedagogical models for collaborative, computer-based language teaching are also in the works. Based on pedagogically sound theories, methods, and approaches for teaching a second language, these models include but are not limited to, social learning theory, cooperative learning, project-based learning, the writing process, an integrated approach to curriculum development, and a metacognitive focus on writing (Barker & Kemp, 1990; Cummins & Sayers, 1995; Langston & Baston, 1990; Warschauer 1995, 1996b).

Researchers caution, however, that CMC exchanges should be part of an integrated process, handled the way one would incorporate a new textbook into the curriculum, rather than an add-on feature like a guest speaker (Barson, Frommer, & Schwartz, 1993; Klemm & Snell, 1995; Warschauer, 1995). This refers not only to the integration of computer technology with ESL methodology, but a more thorough integration of classroom organization, syllabus, and curriculum (Warschauer, 1996b).

## THE STUDY

### Participants

This case study, conducted in the spring of 1999, involved two secondary schools: the Buddhist Sin Tak College (BSTC) in Hong Kong and Green River High School (GRHS) in Iowa. The BSTC students were 15- and 16-year old native Cantonese speakers in a Form 4 (10th grade) intermediate-level ESL class. Their American counterparts were 16- and 17-year-old native English speakers in an 11th grade elective World Literature class. Research took place at BSTC during a 12-week period from late January through mid-May 1999. The class met 3 days a week for 1.5 hours each day.

### Project Design

The Hong Kong-Green River model was developed out of two competing demands: the Hong Kong Certificate Education Exam (HKCEE) syllabus required for Form 4 students, and skills demanded of a global telecommunications exchange and a communicative ESL classroom. Our model addressed both needs to a certain extent, by focusing on selective elements of the HKCEE, while teaching "real-life" English skills like planning, organizing, revising, debating, negotiating, using social interaction behavior, and cooperative learning. Class content is described in Table 1.

Table 1. Class Content

| I. Skills required by the Hong Kong Certificate Education Exam for Form 4 students: | |
|---|---|
| Writing | Informal writing, introductions, imaginative essays, descriptive paragraphs |
| Grammar | Negative statements, the conditional tense, connectives |
| Reading | Cloze passages, comprehension, word usage exercises |
| Oral | Group discussion, summarization, social interaction behavior, group negotiation |
| **II. Skills required for a collaborative, communicative, student-centered e-mail exchange** | |
| Cooperative Learning | Team building, desk arrangement, fulfilling individual roles and group goals, completing timed tasks |
| Social Behavioral Interaction | Initiating discussion, agreeing and disagreeing, asking for opinions, clarifying, conceding points, giving counter arguments, reaching consensus |

| | |
|---|---|
| | and encouraging others during small group discussions |
| Process Writing | Pre-writing, planning, drafting, revising, evaluating |
| Evaluation | Metacognitive focus on writing, use of rubrics, peer and teacher feedback, individual, small and large group evaluation methods |
| Computer Background | Word processing, saving and storing data, sending e-mail, Internet etiquette |

## Project Activities

At the project's core, an anthology of student writing was cooperatively planned, negotiated, and carried out by Hong Kong and Green River students. Anthology production was accompanied by a variety of related activities such as "ice breakers," formal and informal e-mail communication, cloze exercises, a "culture box" exchange, shared text, peer critiquing, and various forms of evaluation.

## The Hong Kong-Green River Model

### Opening Communication

    a.  Teachers exchange brief introductions and background information.

    b.  Teachers send a "welcome" letter to partner classes.

### Ice Breakers

    c.  Keypals exchange first "hello" letter (informal e-mail on general themes like personal characteristics, family, hobbies, or school life).

    d.  Keypals exchange second e-mail (focusing on negative statements and conditional tense). Hong Kong students highlight these two grammatical items as found in their partner's letters, and make deliberate use of them while discussing likes and dislikes, hopes and expectations.

    e.  Students create Cloze exercises (fill-in-the-blanks) with descriptive passages about their respective Green River or Hong Kong communities.

    f.  Students guess at missed out words on their partners' Cloze exercises, then receive answer key via e-mail.

### Negotiating the Project

    g.  Both classes negotiate a topic for an imaginative essay (several rounds of "in class" and "online" communication transpire).

    h.  Students share text-based examples of imaginative essays.

    i.  Students write first draft of imaginative essays in class and receive peer critique in cooperative groups. Shared rubric used for evaluation.

    j.  Students revise drafts and send revisions to foreign keypals for peer-critique. Shared rubric is used for evaluation.

### Culture Exchange

    k.  Students exchange culture box (posted to partners and filled with photos, stamps, postcards and other realia from their respective countries).

### Continued Correspondence

    l.  Students send third e-mail to partners (focusing on the use of connectives).

    m.  Students write final draft of imaginative essays after receiving peer feedback from partners.

### *Anthology Production*

n.  Essays are edited and production of jointly-published magazine begins.

o.  Decisions are made (via e-mail) regarding anthology format, division of labor, inclusions, and other related tasks.

### *Closure and Evaluation*

p.  Anthology is completed, "goodbye/thank you letters" are written, large and small group evaluations are conducted, and student surveys and interviews are completed.

## Pre-Project Preparation

Before the project commenced, Hong Kong students were given training in cooperative learning, process writing, and oral discussion and negotiation. The following skills were practiced in each category:

### *Cooperative Learning Skills*

1.  **Desk arrangement**: Students were asked to cluster desks into cooperative groups at the beginning of class. It was helpful to formally time this activity the first few weeks, saying, for example, "Let's see if we can do this in 2 minutes today!" With a bit of practice and encouragement, arranging desks became second nature when students walked through the classroom door.

2.  **Teambuilding activities**: Groups were given the chance to form identities, select names, and design group logos.

3.  **Fulfilling individual roles to meet group goals**: The importance of students fulfilling individual roles while adding to the mutual effort, was stressed. Individual roles included (but were not limited to) a timekeeper, an encourager, a secretary or recorder, a group speaker, a quizzer, and a fact checker.

4.  **Timed tasks**: Cooperative groups learned to accomplish tasks within a set time period, including exercises like "jigsaw" activities (groups reassemble a text that has been broken up in pieces like a puzzle), "think-pair-share" activities (students pair up to discuss a particular topic provided by the teacher, later sharing their findings with the whole class), "team interviews" (students interview each other in turn), and "roundrobins" (students respond orally or in writing to questions, in turn and in a circular fashion).

### *Process Writing Skills*

1.  **Pre-writing skills**: "Semantic webbing" or "brainstorming," listing, considering genre, goals, and audience

2.  **Planning skills**: Organizing ideas into an outline form, developing main topic, key points, and subordinate ideas

3.  **Writing skills**: Viewing writing as a teachable and recursive process, considering process as well as product

4.  **Revising**: Writing multiple drafts and proofreading for content, organization, sentence structure, punctuation, grammar, mechanics and vocabulary

5.  **Evaluation**: Using writing rubric, peer comments, and teacher comments to evaluate self and others, and selectively assessing written pieces in regards to criterion on a rubric

### *Discussion and Negotiation Skills*

1.  **Social interaction behavior:** Initiating discussion, staying on task, presenting opinions and counter-arguments, agreeing and disagreeing politely, compromising, negotiation, wrapping up

2. **Discussion:** Using various formats such as dyads, small cooperative groups, large groups, presenting discussion points to whole class, listening to classmates, encouraging input from others, giving feedback in a group setting

## CALL Procedures

The BSTC computer lab had of 24 Compaq Pentium II computers connected as a LAN (Local Area Network), one 56K modem, and two Hewlett Packard Laser Jet printers. Student computers were located in four rows of partitioned work carrels, while a single teacher station with the lab's only Internet connection was located at the front of the room. Students wanting to send e-mail had to do so individually from the teacher's station.

Prior to the exchange, students in Hong Kong and Green River were given a "computer use survey" which identified individuals requiring special assistance with hardware or software, as well as those with particular expertise who could serve as peer tutors. Based on survey results, students were paired up: one student with strong computer skills and one with weaker skills.

Computer training was given in basic skills needed for the exchange: opening and closing files, saving documents, copying onto floppy discs, and using specific e-mail programs and Web browsers. Students were also briefed on Internet etiquette, especially common student behavior such as flaming and using all capital letters.

During the first week of the exchange, all 45 Hong Kong students worked together in pairs in the computer lab. Although "partnering" proved sound from a methodological standpoint, our lab was too small for 45 students. During the second week, I divided the class in half during our 2-hour lessons, allowing one group to work in the lab for the first "shift" while the other group studied in the classroom with my team-teacher. At the end of the first hour, the two teachers switched places, so that everyone had a chance to do the same work. Students were allowed to access the lab during "free" periods.

## Operationalizing Project Goals

Exchange activities were planned with the project's three goals in mind: (a) implementation of student-centered paradigms, (b) an integrated approach for combining computers and language learning, and (c) academically sound pedagogy, methods, and theory. The following paragraphs describe two classroom activities in detail -- topic selection and process writing -- both which exemplify how classroom activities operationalized the larger project goals.

## Topic Selection

Hong Kong students met in cooperative learning groups to explore topics for their "imaginative essay." In a 5-minute, round robin exercise, each group member wrote down one suggestion on paper before passing it on to the next member for his/her input. After a sizeable list had been formed, students practiced social interaction skills (initiating discussion, agreeing, disagreeing, conceding points, proposing counter arguments, summarizing, concluding), until groups had reached consensus on a topic.

Each group presented its topic of choice to the whole class, which then voted on the top three ideas. The top three ideas were passed on to Green River partners, who in turn presented Hong Kong students with their own favorite ideas. Online discussion and negotiation ensued until both classes arrived at a mutually satisfactory theme: "entertainment." At the end of this activity, Hong Kong students reflected (individually and in groups) about their collaborative learning experience.

This exercise exemplified student-centered pedagogy in which classmates discussed, negotiated, and ultimately decided on their own theme. The teacher played the role of facilitator, helping cooperative groups get started and stay on task, clarifying instructions, and suggesting learning methods as groups worked independently. CMC was integrated naturally into this authentic, communicative task, as an

extension of classroom discussion and debate. Finally, cooperative learning and theme-based education were utilized to teach important skills of social interaction and group discussion.

**Process Writing**

The writing process served as a framework for students developing their imaginative essays. Pre-writing activities included sharing exemplary essays with Iowa partners (scanned and sent via e-mail), and whole-class discussions on pre-writing, planning, audience, the imaginative genre, and grammatical forms (in particular, the conditional tense). Individual teacher-student conferences were held on an as-needed basis to discuss writing goals.

While writing, all students used a shared rubric that was co-designed by Hong Kong and Iowa teachers. While ultimately serving as an evaluation tool, this rubric helped students focus on specific writing goals such as proper paragraphing, organization, transitions between paragraphs, and use of the hypothetical conditional tense.

Peer critiques in Hong Kong were performed during a first draft "read around" activity in cooperative groups. Students were given 8 minutes to read an essay, 15 minutes to give written comments on the rubric form, and 5 minutes for oral feedback. Essays were exchanged until all group members had read and commented on each essay. Teachers made additional written and verbal comments on first drafts, before students sent revisions to their Iowa partners.

Using the same shared rubric, all students gave reciprocal written feedback (via e-mail) on their partners' essays. Additional drafts were written and revised in respective classes, until a final copy was published in the jointly-produced anthology.

This workshop environment made use of student-centered learning, through which classmates discussed and evaluated peer work. Computers were integrated into the tasks of peer critiquing and examining shared text. This activity placed a metacognitive focus on writing through the use of a shared rubric and discussion of individual and class writing goals.

## RESEARCH DESIGN AND DATA COLLECTION

This is a single case study examining student opinions, attitudes, and perceptions towards a specific collaborative e-mail exchange at the Buddhist Sin Tak College, a local secondary school in Hong Kong. The study, although non-experimental in nature, utilized qualitative and quantitative research instruments for data collection. Qualitative instruments included formal and informal interviews, teacher questionnaires, naturalistic observation, observation with a video camera and tape recorder, and research journals. Quantitative instruments consisted of the pre- and post-model surveys using self-rated Likert-like scales assessing English ability, interest, and confidence in certain English- and computer-related domains.

**Research Questions**

Several research questions guided this study, examining (a) changes in student attitude about computers and language learning; (b) the effect of computer background on student attitude, interest, and motivation; (c) student perception of acquired reading, writing, speaking, and listening skills; and (d) student attitude towards cooperative learning during the exchange. Investigating student attitude and perception was important, since a large part of the CALL body of research deals with student outcomes and achievement, rather than student-oriented questions about likes and dislikes of instructional models (Benremouga, 1995, p. 2). Additionally, assessment tools may not accurately detect progress in the four language domains for students with poor test-taking skills. Therefore, student beliefs and perceptions about their own improvement are important to document. The issue of computer background was important to examine, since half of the Hong Kong students were experienced users, while the other half were novices.

I wanted to know if experienced computer users would excel in CMC activities due to ability and interest, or if they would become bored by using (and in some cases, reviewing) skills they had already acquired. On the other hand, I questioned if students with weak computer backgrounds would be intimidated by using CMC as part of their daily English lessons. Finally, I wanted to examine student perceptions towards cooperative learning, since virtually every part of our CMC exchange was based on cooperative discussion and negotiation, first in small classroom groups, and then as online discussion between the two partner classes.

**Semi-Structured Interviews**

The majority of qualitative data came from formal, semi-structured interviews that were recorded and transcribed during the last week of the project. Semi-structured interviews are well suited for case studies because they include specific, well-defined questions determined in advance, while at the same time allow for elaboration of responses and on subsidiary questions (Sudman, 1982). They are also useful tools for eliciting opinions, feelings, and values (Merriam, 1988; Patton, 1990).

Salient themes that emerged from interview data were categorized and reported, while student quotations were used to illustrate these themes. Attitudinal responses, particularly likes and dislikes about the project's different features, were later quantified to get a better look at student reaction to the exchange. The results, described below, refer only to Hong Kong students.

**RESULTS**

**General Student Perceptions**

The majority of Hong Kong students spoke favorably about the exchange during the personal interview (see Appendix A), describing it with 45 positive adjectives, compared to 3 negative ones. Among positive adjectives, the most common were "interesting/interested" and "good" as are illustrated here:

> Beth:      ...I think everyone who received letters (from partner class) will feel
>             excited so she or he will interested in this.

> Arthur:    It is a good project. We had a chance to improve our reading and also
>             listening and we have another chance to improve our grammar. During this
>             activity I always talk to others in English. Speaking in English can help me
>             to achieve more.

In the same interview question (Appendix A), students attributed 65 strengths to the project, while listing only 16 weaknesses. The most commonly cited weakness (5 students) was that the project was not long enough -- in actuality, a positive response. The most significant weakness reported was that students did not receive enough letters/e-mail from their Iowa partners (4 students). This sentiment may be a result of the fact that Iowa keypals missed several mutually established deadlines, resulting in a decreased number of formal exchanges during the project.

**Most and Least Fun Activities**

Hong Kong students considered speaking in small groups and computer practice to be the "most fun" parts of the exchange, as revealed during the personal interview (Appendix C). In general, six major themes emerged as students described why certain activities were "fun":

- Freedom to write or imagine what one wants to
- Happiness/fun
- The model was "fresh" or "new"
- Sharing or learning with others
- More communication/more speaking opportunities

- Making contact with friends via computers/e-mail

For example, Hong Kong students said,

Eliza:              ...the topic is very wide. I can write anything I like.
Howard:            I think cooperative learning is so good. It is very fresh. I can speak freely.

This data correspond with conclusions of other researchers, detailing student satisfaction from selecting their own topics during CMC exchanges and being taught in a communicative, student-centered environment (Cooper & Selfe, 1990; Tella, 1991, 1992a, 1992b).

Six themes emerged as reasons why students did not find particular activities "fun":

- Lacking skills for the activity
- Abundant experience in similar activities
- Too difficult
- Too easy
- Not teaching English to the extent that other activities did
- Foreign partners' comments were discouraging

The activity most frequently mentioned as "least fun" was "writing imaginative essays" -- the most common objections being that they took "too much time" and that plots were "difficult to imagine" (Appendix C). However, imaginative essay writing ranked forth in a list of 14 choices for being "most helpful" for learning English (Appendix B), and third in a list of 14 choices for being "useful to repeat again" (Appendix J). This ambivalence shows that Hong Kong students clearly appreciated the fact that academically "helpful" activities are a lot of work.

Computer practice came in second place on both "least fun" and "most fun" lists, revealing a definite split of opinion on the issue. This was possibly due to the fact that students were split in terms of computer ability -- half were seasoned computer users, while half were beginners.

**Language Learning with Computers**

A majority of Hong Kong students (84%) indicated a preference for learning English with computers during their personal interviews (Appendix G). The most common reasons given were that computers made writing "easier," facilitated the correction of spelling and punctuation mistakes, were "modern," "useful," "interesting," and "faster" than writing by hand.

This data corroborates conclusions from other researchers, who report that CMC in the second language classroom facilitates general communication and the revision process (Beauvois and Elledge, 1996; Carter, 1989; Cononelos & Oliva, 1993; Kern, 1995; Phinney, 1989) and improves student attitude towards writing (Egbert, Jessup, & Valacich, 1991).

Hong Kong students displayed less anxiety, fear, and discomfort over computer use at the end of the exchange, than at the beginning (Appendix H). Reflecting on their feelings towards computers in January (at the beginning of the exchange), Hong Kong students used a considerable number of negative words and phrases such as "afraid" (6), "uncomfortable" (7), "not easy to use" (4), and "dislike" (3). However, describing their feelings in May (at the end of the exchange), students used no words reflecting anxiety, fear, discomfort, or lack of confidence while using computers. In addition, only six students reported being "confident" about computer use in January, whereas this number grew to 14 by May (Appendix H). One student recalls her feelings toward computers in January: (Maggie) "I am very afraid to use computer at first, and I type very, very slow." However, in May, the same student reported, "I feel more confident for using computer than before. And I spend my time on ICQ now. And I have improved my typing speed."

The majority of students indicated either contentment towards the computer use throughout the project or an increasingly in positive reaction towards computer use by the end of the exchange (Appendix H). Of the later group, eight students shifted from negative to the positive feelings.

These findings corroborate conclusions of other researchers that anxiety among L2 learners is reduced when electronic discussion is used, especially when it precedes oral classroom discussion (Kern, 1995) or allows time for students to form responses (Sullivan, 1993).

**Collaborative Learning**

Cooperative learning was the Hong Kong students' favorite exchange activity (Appendices B, C, D, and J). During personal interviews, a total of 99 positive responses were reported for the cooperative learning process, in contrast to 54 negative responses (Appendix D). Students favored cooperative learning for "oral English practice," (31) "improving speaking" (16), and being the "most helpful" means of improving English (Appendix D). Students also said cooperative learning exercises were the most "fun" (Appendix C) and the most "useful to repeat" (Appendix J). Student feedback on cooperative learning included the following:

> Alisha:    I really enjoy this. I can speak more frequently and to be more brave to speak.

> Wanda:    I think the group discussion is quite helpful because when we do write a composition, we can share our opinion to the other's and teachers. In the traditional class ... we only give our composition to our teachers.

This data corroborates conclusions from other researchers that group learning is the most beneficial operational mode for CMC Projects (Galvin, 1985; Ganszauge, Hult, Sajavaara, & Kontinnen, 1994), and that for optimal learning to occur, students must go past the keypal stage and engage in significant collaborative projects using a task-oriented approach with a final product (Klemm & Snell, 1995). Cummins and Sayers (1995) additionally advocate the combination of collaborative learning and critical inquiry for CMC projects.

**Public Exams**

Hong Kong students were ambivalent as to whether exposure to the CMC exchange would help them perform on upcoming end-of-year public exams. Data from personal interviews (Appendix E) indicate that 40% of Hong Kong students believed the exchange experience would help them on HKCEE exams. Skills most often linked to expected improvement (Appendix E) were speaking (20 responses), listening (15 responses), and writing (11 responses).

However, on the post-project survey (Appendix K), students indicated mild disagreement with the proposition that exam-related skills improved as a result of the project. Nine students (20%) said the project had "somewhat" improved skills for getting good test results, while only one student (2.2%) thought these skills had improved "very much."

Finally, students did not believe that exposure to the exchange resulted in improved grammar or vocabulary skills (Appendix E). Several students said that they preferred to learn discrete, language function skills that would appear on their public examinations:

> Harry:    ... it (the exchange) only improved our talking and speaking English skills, not very much teaching grammar, but in the exam, grammar is more important than talking skills" (personal interview question 11B).

From the qualitative data above, student perception, attitude, and interest was largely favorable.

**Pre- and Post-Model Surveys**

The majority of quantitative data used in this study came from pre- and post-model surveys which utilized a self-rated, Likert scale which assessed English ability, interest, and confidence in various English- and computer-related domains. Pre-model surveys were used to gain baseline information on demographics and student attitudes, while the post-model survey measured student's perceived changes in their own learning, attitude, and other evaluative matters. Pre- and post-model surveys have been found to be valuable tools for case study research, as they generate a significant volume of data in an unobtrusive way (Johnson, 1994) and highlight phenomena that are not easily observed such as attitudes, motivation, and self-concepts (Seliger & Shohamy, 1989). Quantitative analysis provided a useful alternative perspective of Hong Kong students, which although positive at times, did not always present a consistent or unequivocal picture of improvement.

**Description of Statistical Process**

A t-test for correlated samples was performed on Likert scale ratings for pre- and post- model questions with the same or very similar wording, in order to determine whether there were statistically significant differences between the pre-model and post-model mean scores. The original coding used on pre- and post-model surveys was *1*=agree strongly, *2*=agree, *3*=neutral, *4*=disagree, and *5*=disagree strongly. This coding was subsequently reversed after completion of both surveys. This was done for two reasons: (a) people generally associate high numbers with positive ratings, and (b) changes in the mean ratings of variables from a pre-model item to its post-model counterpart would be positive if the change was towards the more positive end of the scale. For example, a change from a 4 to a 5 rating would indicate change from "agree" to "strongly agree."

**Correlation of Input and Output Measures**

Correlations between input and output measures were then examined. Input measures included aspects of the individual which were measured by the pre-model survey (e.g., computer familiarity) that might reasonably have been expected to affect the outcome of the program (e.g., student reaction to the program). Output measures included aspects of the individual which were measured by the post-model survey (e.g., self-assessed improvement in writing) that could be said to have reflected the student's reaction to the program (e.g., negative or positive impression).

Variables were grouped in related categories, to arrive at an aggregate score for grouped items. A reliability analysis of these grouped items was performed, measuring the internal consistency of aggregate scales to make sure they could be interpreted as measuring a single trait (Appendix M). This analysis gives a reliability coefficient (Cronbach's alpha) with a value for each scale. The higher the value of this coefficient, the more reliable and coherent the scale is considered to be. Conventionally, 0.075 is the minimum required. Where reliability levels did not meet the conventional criterion, individual items were omitted when this led to improvement in the scale reliability.

Table 2. Comparative Pre- and Post-Model Survey Mean Scores

| **Questions** (n = 45 students) | **Pre-mean** | **Post-mean** | *t* | *p* |
|---|---|---|---|---|
| 1. I can write an English composition with ease | 2.96 | 3.18 | 1.81 | 0.077 |
| 2. I can speak English with ease | 3.02 | 3.16 | 1.03 | 0.309 |
| 3. I can read English with ease | 3.18 | 3.29 | 0.93 | 0.359 |
| 4. I can understand spoken English with ease | 3.11 | 3.32 | 1.39 | 0.173 |
| 5. I would rather spend time on my other courses rather than English | 2.87 | 2.96 | 0.53 | 0.599 |
| 6. I am nervous when I have to write an English Composition | 2.64 | 2.69 | 0.36 | 0.719 |
| 7. My classmates in Hong Kong can help me improve my English writing by discussing my compositions in groups | 3.02 | 3.16 | 0.61 | 0.546 |
| 8. I am confident about my English ability in general, including reading, writing, speaking, and listening | 2.71 | 3.00 | 2.23 | 0.031* |
| 9. I am not interested in using computers in my English class | 1.98 | 2.33 | 1.89 | 0.066 |
| 10. I am embarrassed to send letters to English-speaking students | 2.40 | 2.09 | 1.82 | 0.075 |
| 11. I think my English writing will improve/has improved | 3.98 | 3.20 | 4.63 | 0.000** |
| 12. I think my English speaking will improve/has improved | 3.27 | 3.42 | 0.78 | 0.437 |
| 13. I think my English reading will improve/has improved | 3.89 | 2.98 | 5.16 | 0.000*** |
| 14. I think my English listening will improve/has improved | 3.18 | 3.36 | 0.88 | 0.383 |

*p < 0.05, **p < 0.01, ***p < 0.001

**Learning the Four Language Skills**

A correlation of input and output measures was performed with variables relating to the four language skills (items 8, 11, 12, 13, and 14 in Table 2). Since all of these items measured the underlying trait of confidence in English, they were grouped into a single category to arrive at an aggregate score. It was believed that the aggregate of scores for several items would be more reliable than an individual's score for a single item.

Quantitative data from pre- and post- surveys showed a small but statistically significant ($t = 2.23$, *df* 44, $p = 0.031$). increase in student's general confidence in the four English skills -- speaking, reading, writing, and comprehension -- after exposure to this project. There was, however, a highly significant decrease in "English writing" and "English reading" variables for which the post-model mean rating was significantly less than the pre-model mean rating. In both cases, the difference was statistically significant at the level of $p<0.001$, which seems to indicate that the experience of taking part in this exchange led to a decrease in student confidence in reading and writing skills (Items 13 and 11 in Table 2).

It is my belief, nonetheless, that student confidence in writing and reading skills did not actually suffer. There is a natural tendency for students to lose interest in any pedagogical program after time, and students were given the pre-model survey a week before the project commenced, without an indication of what the project would entail, other than a vague notion that it involved collaboration with a foreign class via e-mail. Therefore, student hopes that their writing and reading skills might "improve" as a result of this project were neither based on concrete experience or knowledge about the model.

Additional information garnered from qualitative data revealed that student had positive perceptions about writing in particular. For example, project-related writing was ranked second of 14 responses for being a "helpful" skill needed for the future (Appendix F) and ranked fourth of 14 responses for being "most helpful for learning English" (Appendix B). Similarly, writing imaginative essays ranked third of 14 responses for being "useful to repeat again" (Appendix J).

As for reading confidence, the exchange activities did not include the type of reading that Hong Kong students are accustomed to: textbook examples of essay patterns and explanations of discrete grammar functions. Instead, much of the reading time focused on peer essays and informal e-mail communication. Some students may have felt that these reading models were less "legitimate" than those in their exam-oriented textbook.

Rather than interpreting this data as a decrease in reading and writing confidence, I prefer to look holistically at student attitudes. Methodological triangulation shows a somewhat inconsistent picture, although the majority of evidence, particularly data garnered from student interviews, indicates a favorable student response.

**Computer Background and Attitude, Interest, and Motivation**

As part of this study (Appendices L, M, and N), correlations were performed between input and output measures on the pre-survey questionnaire. Input measures related to self-assessed computer ability (labeled "CANDO") were correlated with output measures related to self-assessed improvement in various skills like writing, speaking, reading, and understanding (labeled "IMPROVED"). The correlation between these measures was negative and statistically significant ($r = -0.387$, $p<0.01$), indicating that higher levels of computer ability are associated with lower levels or general satisfaction with the project, and vice versa (Appendix N).

The correlation between the number of hours students use computers at home each week ("HRSWEEK") and the output measures ("IMPROVED") was also negative and statistically significant (Appendix N). These data, although not as positive as hoped for, are understandable. A general decline in student interest and motivation is a natural and familiar process in any pedagogical program as it proceeds. In addition, students with highest computer abilities would naturally have found redundancy in the computer-related parts of our project: initial training in word processing, saving files, and sending e-mail documents. Also, inexperienced computer users may have felt excitement over using the new technology, as well as personal satisfaction in learning skills they had not used before.

The data may be explained by overly optimistic expectations recorded during the pre-survey, and delayed responses from Iowa keypals. Delayed responses may have affected students to a greater extent than other reasons; it was virtually the only complaint that students verbalized during class. This problem was also listed as the most significant "weakness" of the model (Appendix A).

**DISCUSSION**

This study indicates that developing a well-designed CMC exchange for the second language classroom is not a simple endeavor. It is intricate, integrated, and multi-layered -- demanding the utilization of a host of skills and instructional paradigms by the classroom instructor. The integration of sound theory, methods, and pedagogy is essential in order to optimize language learning benefits. Simply sending e-mail to students in other countries does not constitute an academically challenging or rigorous program (Cummins & Sayers, 1990; Garrett, 1991).

Language learning principles can work well when used in tandem with new teaching paradigms such as student-centered, consensus-based, and product-oriented approaches to learning (Cooper & Selfe, 1990). In addition, CMC projects should be integrated into the larger curricular program, rather than function as stand-alone activities (Warschauer, 1995). Therefore, grade-level, school-wide, or state-mandated curriculums must be addressed when developing such exchanges.

Effective CMC exchanges can also be developed at schools with national curricula. As evidenced in the instructional model above, an exchange can be flexible enough to keep the integrity of a national or grade-wide curriculum, while simultaneously teaching English through holistic, real-life experiences. A

blend of both general communicative skills and exam-driven skills might provide students at such schools with a better formula for success.

There are, however, several caveats to consider with CMC exchanges. Project dependability, for one, is impossible to ensure when working with a partner school, even with the best-designed project or the most enthusiastic partners. In our case, Green River students failed to meet deadlines on several key assignments (formal e-mail exchanges, peer critique, Cloze exercise, and culture box exchange) which negatively impacted the Hong Kong students' interest. Some of these delays were beyond teacher control: school closures on "snow" days, teacher illness, and in one case, the suspension of school-wide Internet privileges after several students (not from our partner class) were caught "flaming." Other delays occurred when the teacher failed to check that students had e-mailed their work. These delays greatly curtailed the number of activities we had originally planned. However, it should be mentioned that in my prior experience with six different collaborative e-mail projects, delays were not the norm.

A tremendous amount of teacher set-up and planning must precede a CMC exchange. This may involve preparing students in unfamiliar skills, such as those needed for cooperative learning, process writing, or small group discussions. Our Hong Kong students, for example, required 3 or 4 weeks of training before they felt comfortable participating in the aforementioned activities.

Additionally, compatibility between partner classes is essential, but difficult to achieve. During pre-project preparation in finding a suitable partner, we considered how many class hours per week the teacher was willing to devote to the project, and if 17-year-olds would be willing to work with 15- and 16-year-olds. We additionally compared student background in computers and typing ability. A class of "hunt and peck" typists, for example, would have difficulty responding to long questionnaires and essays produced by expert typists. Finally, we evaluated respective class goals to make sure they were complementary.

Finally, few theoretical or research-based models exist for developing CMC exchanges that expressly show how language skills and technology can be integrated together under the umbrella of a well-designed curriculum. Therefore, teachers may need support and preparation before embarking on such an exchange. This support might come in the form of individual or school-sponsored research or professional growth activities.

## CONCLUSION

Data gained from this case study has highlighted the attitudes, feelings, and perceptions of secondary ESL students towards a collaborative, cross-cultural CMC exchange for the purpose of learning English. Qualitative data gained from personal interviews showed strong student support for this collaborative exchange model. Hong Kong secondary students used largely positive adjectives to describe the project, believing it was "a good learning experience," "helpful," "enjoyable," and something they would "like to repeat in the future." Cooperative learning, in general, received the most positive student response.

Quantitative analysis, however, provided a useful alternative perspective, which although positive at times, did not always present a consistent or unequivocal picture of improvement across the whole range of attitudes surveyed by the questionnaires. Further findings indicate that CMC exchanges can be successfully implemented at both "national curriculum" schools, as well as schools with a more flexible curriculum, to enhance second language learning.

There were several limitations to this research, including the fact that student information was self-reported and self-assessed. In addition, the duration of this study was relatively short, and it is a well-known phenomenon in language learning research that short-term effects of a particular treatment can change 6 or 8 months down the road. Finally, this study focused on a small, specific student population, and therefore, data may not be generalized to other institutions or ESL classrooms.

CMC exchanges offer a host of possibilities for increasing student language proficiency. Yet, models based on theoretical or empirical research are sorely needed to guide teachers towards pedagogically sound practices. These models, at minimum, should (a) involve an integrated approach for language instruction, (2) make use of new student-centered paradigms in language learning, (3) have a basis in current and widely-accepted theories and methods for modern second language instruction, (d) consider learner's reactions, and (e) lead the instructor from the developmental stage of an exchange, through the actual production and its logical extensions.

It is therefore my hope that this case study has offered other secondary ESL teachers one possible framework for developing a CMC exchange. It is also my hope that it will lead to an increased understanding of the structure, organization, and logistics of setting up a comprehensive CMC exchange, as well as a "close up" glimpse at holistic phenomenon, including social dimensions, student attitudes, and beliefs.

## APPENDIX A
## Question 2: What do you think of this project?

| A. Adjectives | Number | B. Likes | Number |
|---|---|---|---|
| Interesting/interested | 15 | E-mail | 4 |
| Good/nice | 10 | Using computers | 3 |
| Boring | 3 | Group discussion | 3 |
| Enjoyable, liked | 4 | Publishing magazine/project | 2 |
| Exciting | 4 | Cooperative learning | 1 |
| Fresh/new | 4 | | |
| Excellent/wonderful/great | 3 | **C. Dislikes** | **Number** |
| Useful | 2 | Didn't like e-mail | 3 |
| Encouraging | 1 | Didn't like group discussions | 3 |
| Meaningful | 1 | Didn't like computer lab | 1 |

| D. Strengths | Number | E. Weaknesses | Number |
|---|---|---|---|
| Improved English | 16 | Not long enough | 5 |
| Language modeled by native speaker | 8 | Not enough e-mail from partner | 4 |
| Contact with foreigners | 6 | Not enough exam-related skills | 3 |
| Improved speaking | 6 | Not enough grammar practice | 3 |
| Improved writing | 5 | Too time consuming | 2 |
| Made friends | 3 | A lot of work | 1 |
| Improved grammar | 3 | Partner's vocabulary too high | 1 |
| Improved communication | 2 | Students lack computer skills | 1 |
| Improved listening | 2 | Chinese used in class | 1 |
| Improved reading | 2 | | |
| Learned a lot/good learning experience | 2 | | |
| Improved confidence | 1 | | |
| Improved computer skills | 1 | | |
| Improved typing skills | 1 | | |
| Learned from others | 1 | | |
| Learning extended at home | 1 | | |

**APPENDIX B**
**Question 3: Which activities during this project were the most helpful for learning English?**

| Activities | *n* |
|---|---|
| Speaking practice in small groups | 27 |
| Getting comments from your Iowa partner about your essay | 16 |
| Cooperative learning in small groups | 15 |
| Writing Imaginative Essays | 15 |
| E-mail practice | 12 |
| Reading Imaginative Essays from Iowa | 10 |
| Writing comments to your Iowa partner about their essay | 9 |
| Computer practice | 7 |
| Personal letters to partner | 7 |
| Small group comments on essays | 7 |
| "Hello" Letters | 5 |
| Making Cloze Exercises | 4 |
| Answering your partners' Cloze Exercises | 4 |
| Other: | 2 |
| (a) Improved thinking | 1 |
| (b) Have native speaker as teacher | 1 |

**APPENDIX C**
**Questions 5, 6: What were the most fun/least fun activities during this project?**

| Activity | Most Fun | | Least Fun | |
|---|---|---|---|---|
| | *n* | rank order | *n* | rank order |
| Speaking practice in small groups | 15 | 1 | 1 | 13 |
| Computer practice | 8 | 2 | 7 | 2 |
| Cooperative learning in small groups | 7 | 3= | 1 | 14 |
| Making Cloze exercises | 7 | 3= | 3 | 4= |
| "Hello" Letters | 5 | 5 | 3 | 4= |
| Answering partners' Cloze exercises | 4 | 6= | 6 | 3 |
| Writing imaginative essays | 4 | 6= | 8 | 1 |
| Personal letters to partner | 3 | 8 | 3 | 4= |
| E-mail practice | 2 | 9= | 2 | 11 |
| Small group comments on essays | 2 | 9= | 2 | 12 |
| Other: sharing culture box | 2 | 11= | -- | -- |
| Reading imaginative essays from Iowa | 1 | 12 | 3 | 4= |
| Getting comments from Iowa partner about your essay | 0 | 13= | 3 | 4= |
| Writing comments to your partner about their essay | 0 | 13= | 2 | 10 |
| Other: Everything is fun | | | 2 | 9 |

**APPENDIX D**
**Question 8: What do you think of cooperative, small-group learning?**

| Answer | *n* |
|---|---|
| **General** | |
| Positive reaction | 34 |
| Mixed reaction | 7 |
| Negative reaction | 4 |
| **Positive Points** | |
| Oral English practice | 31 |
| Improves our speaking | 16 |
| Fun/Enjoyable | 12 |
| Learn to cooperate with others | 7 |
| Learn together with others (as opposed to individually) | 6 |
| Share ideas/opinions | 6 |
| More efficient way to learn | 4 |
| More communication | 3 |
| Helps with HKCEE exam | 2 |
| Increases courage | 5 |
| Can talk about own interests | 1 |
| More authentic situation | 1 |
| Teacher will assist | 1 |
| Peer tutoring | 1 |
| Increase friendships | 1 |
| Learn more about classmates | 1 |
| Practice leadership | 1 |
| **Negative Points** | |
| Some students are too shy/quiet | 15 |
| No negative points | 5 |
| Cannot correct oral mistakes | 2 |
| Some use Chinese | 2 |
| Lack of sufficient vocabulary | 4 |
| Room too noisy | 4 |
| Not efficient way to learn | 3 |
| Some talking off task | 3 |
| Takes time away from texts/ exams | 3 |
| Arranging desks takes too much time | 2 |
| Some students are too talkative | 2 |
| Nervous to speak up | 2 |
| Not enough time (want to do more) | 2 |
| Group members not friends | 1 |
| Can't improve our English | 1 |
| Introduction not clear | 1 |
| Some members do more work | 1 |

**APPENDIX E**
**Question 11A: Do you think this project will help you pass your end-of-year English exams?**

| Answer | *n* |
|---|---|
| Yes | 18 |
| Mixed response | 5 |
| Only a bit | 9 |
| No | 8 |
| Unsure | 4 |
| Student wasn't asked | 1 |

**Skills indicated as helpful to pass exams**

| Answer | *n* |
|---|---|
| Oral | 20 |
| Listening | 14 |
| Writing | 11 |
| Grammar | 5 |
| Vocabulary | 3 |
| Reading | 1 |

**APPENDIX F**
**Question 12B: Skills gained from the project that you will need in the future?**

| Skill | *n* | Skill | *n* |
|---|---|---|---|
| Speaking skills | 26 | Cooperation | 2 |
| Writing | 10 | Grammar | 2 |
| Listening | 5 | Presentations | 2 |
| Typing | 4 | Holding discussions | 1 |
| Communicate with foreigners | 3 | Listening to other's opinions | 1 |
| E-mail | 3 | Working on projects | 1 |
| Computer skills | 2 | Word usage | 1 |

**APPENDIX G**
**Question 14: Do you prefer learning English with or without computers?**

| Answer | *n* |
|---|---|
| With | 38 |
| Without | 5 |
| Both | 1 |
| Student was not asked | 1 |

**APPENDIX H**
**Questions 15, 16: How did you feel about using computers at the beginning of our project in January/at the end of our project in May?**

| Feelings in January | n | Feelings in May | n |
|---|---|---|---|
| Interested | 23 | Confident | 14 |
| Fun | 18 | Fun | 14 |
| Helpful | 15 | Helpful | 13 |
| Exciting | 14 | Interested | 12 |
| Comfortable using by myself | 11 | Exciting | 11 |
| Easy to use | 8 | Easy to use | 8 |
| Uncomfortable using by myself | 7 | Comfortable using by myself | 6 |
| Confident | 6 | Boring | 3 |
| Afraid | 6 | Not interested | 2 |
| Not easy to use | 4 | Not helpful | 1 |
| Dislike | 3 | Other: so-so | 1 |
| Not helpful | 3 | Dislike | 0 |
| Boring | 2 | Cold | 0 |
| Not interested | 2 | Nervous | 0 |
| Silly | 1 | Not easy to use | 0 |
| Cold | 1 | Silly | 0 |
| Other: A little bit confident | 1 | Uncomfortable using by myself | 0 |
| Nervous | 0 | Afraid | 0 |

| January 1999 | | May 1999 | n |
|---|---|---|---|
| Positive | to | Remained Positive | 20 |
| Negative | to | Positive | 8 |
| Positive | to | Mixed | 2 |
| Positive | to | Negative | 4 |
| Mixed | to | Positive | 2 |
| Negative | to | Remained Negative | 2 |
| Negative | to | Mixed | 2 |

**APPENDIX I**
**Question 19: Would you like to do another project like this one in the future or not?**

| Answer | n |
|---|---|
| Yes | 37 |
| No | 3 |
| A little bit | 2 |
| Maybe | 2 |
| Student was not asked | 1 |

**APPENDIX J**
**Question 19A: What parts are useful/not useful to repeat again?**

|  | Useful to Repeat | | Not Useful to Repeat | |
|---|---|---|---|---|
|  | *n* | rank order | *n* | rank order |
| Speaking in small groups | 24 | 1 | 3 | 9= |
| Cooperative learning in small groups | 20 | 2 | -- | 13 |
| Writing imaginative essays | 17 | 3 | 3 | 9= |
| Reading imaginative essays from Iowa | 16 | 4= | 1 | 12= |
| Getting comments from Iowa partner | 16 | 4= | 2 | 10 |
| E-mail practice | 14 | 6 | 7 | 3 |
| Making Cloze exercises | 12 | 7 | 8 | 2 |
| Hello letter | 10 | 8 | 4 | 6= |
| Writing comments to Iowa | 9 | 9= | 5 | 5 |
| Computer | 9 | 9= | 10 | 1 |
| Personal letter | 7 | 11= | 2 | 8= |
| Small group comments on essays | 7 | 11= | 1 | 11= |
| Answering Cloze exercises | 4 | 13 | 4 | 6= |
| All parts are useful | -- | -- | 6 | 4 |

**APPENDIX K**
**Post-Model Survey Question 24: My skills for getting good results on my year-end English exam**

| Likert Scale | *n* | Percentage |
|---|---|---|
| 1 = has improved very much | 1 | 2.2% |
| 2 = has improved somewhat | 9 | 20.0% |
| 3 = neutral | 19 | 42.2% |
| 4 = has improved just a little | 10 | 22.2% |
| 5 = has not really improved | 2 | 13.3% |
| *m* = 3.133 | | |

**APPENDIX L**
**Labels for Input and Output Measures**

NOTE: All items in this scale have been recoded so that the score is an index of positive motivation rather than negative motivation

**Input Measures**

*1. Familiarity with Computers*

| | | |
|---|---|---|
| 5(a) | CANDO1 | "I can use games" |
| 5(b) | CANDO2 | "I can use word processing" |
| 5(c) | CANDO3 | "I can use CD-ROMs" |
| 5(d) | CANDO4 | "I can use e-mail" |
| 5(e) | CAND05 | "I can use databases" |
| 5(f) | CANDO6 | "I can install programs" |
| 5(g) | CANDO7 | "I can do graphics" |
| 5(h) | CANDO8 | "I can write computer programs" |
| 5(i) | CANDO9 | "I can use the Internet" |

### 2. Self-Assessed Ability in English

| | | |
|---|---|---|
| 10. | LRNENG | "I enjoy learning English in school" |
| 11. | WRITE1 | "I can write and English composition with ease" |
| 12. | SPEAK1 | "I can speak English with ease" |
| 13. | READ1 | "I can read English with ease" |
| 14. | UNDSTD1 | "I can understand spoken English with ease" |

### 3. Prediction of Improvement

| | | |
|---|---|---|
| 27. | ENGWRIT1 | "I think my English writing will improve" |
| 28. | ENGSPK1 | "I think my English speaking will improve" |
| 29. | ENGREAD1 | "I think my English reading will improve" |
| 30. | ENGLIST1 | "I think my English listening will improve" |

### 4. Extrinsic Motivation

| | | |
|---|---|---|
| 15. | REQUIRE | "I am studying English only because it is a requirement" |
| 16. | OTHRCRS1 | "I would rather spend time on my other courses rather than English" |
| 17. | PARENTS | "The main reason I want to improve in English is to please my parents" |

### 5. Confidence in Relation to the Project

| | | |
|---|---|---|
| 19.* | NERVOUS1 | "I am nervous when I have to write and English composition" |
| 20. | CLSMTS1 | "My classmates can help me improve in my English writing by discussing my compositions with me" |
| 21. | GENCONF1 | "I am confident about my English ability in general, including reading, writing, speaking and listening" |
| 22.* | EMBRS1 | "I am embarrassed to send letters to English-speaking students" |

**\***Items 19 and 22 were recoded to provide a measure of positive rather than negative confidence.

### 6. Attitude to the Use of Computers in the English Class

| | | |
|---|---|---|
| 22. | TYPIST | "I am a good typist, compared to the rest of the students in my class" |
| 23.* | NOTINT1 | "I am not interested in using computers in my English class" |
| 25. | BYHAND | "I enjoy writing compositions by hand more than by computers" |
| 26. | FASTER | "I can learn English faster when I use a computer" |

*Item 23 was recoded so the score is an index of positive motivation rather than negative motivation.

## OUTPUT MEASURES

### 7. General Satisfaction with the Project

| | | |
|---|---|---|
| 17. | ENGWRIT2 | "My English writing has improved" |
| 18. | ENGSPK2 | "My English speaking has improved" |
| 19. | ENGREAD2 | "My English reading has improved" |
| 20. | ENGLIST2 | "My English listening has improved" |
| 21. | COMPUSE | "My ability to use the computer has improved" |
| 22. | HLPCOM | "My ability to make helpful comments (in writing) about other students' essays has improved" |
| 23. | REVISE | "My ability to revise my writing based on other students' comments has improved" |
| 24. | GOODRES | "My skills for getting good results on my year-ended English exam have improved |

### *8. Self-Assessed Ability in the Four Skills*

1.    WRITE2        "I can write and English composition with ease"
2.    SPEAK2        "I can speak English with ease"
3.    READ2         "I can read English with ease"
4.    UNDSTD2       "I can understand spoken English with ease"

### APPENDIX M
### Alpha Values for Input Measures

| Scale | Alpha |
|---|---|
| **INPUT MEASURES** | |
| 1. Familiarity with Computers ("CANDO") | |
| Variables: CANDO1, CANDO2, CANDO3, CANDO4, CANDO5, CANDO6, CANDO7, CANDO8, CANDO9 | 0.8067 |
| Variables: CANDO1, CANDO2, CANDO3, CANDO4, CANDO6, CANDO7, CANDO8, CANDO9 (Remove CANDO5) | 0.8177 |
| 2. Self-Assessed Ability in English ("SELFASS1") | |
| Variables: LRNENG, WRITE1, SPEAK1, READ1, UNDSTD1 | 0.7381 |
| Variables: WRITE1, SPEAK1, READ1, UNDSTD1 (Remove LRNENG) | 0.7741 |
| 3. Prediction of Improvement ("IMPROV") | |
| Variables: ENGWRIT1, ENGSPK1, ENGREAD1, ENGLIST1 | 0.6533 |
| 4. Extrinsic Motivation ("EXTMOTIV") | |
| Variables: REQUIRE, OTHRCRS1, PARENTS | 0.3028 |
| 5. Confidence in relation to the project ("CONFID") | |
| Variables: NERVOUS1, CLSMTS1, GENCONF1, EMBRS1 | 0.4310 |
| 6. Attitude to the use of computers in the English Class ("ATTCOMP") | |
| Variables: TYPIST, NOTINT1, BYHAND, FASTER | 0.5125 |
| Variables: TYPIST, NOTINT1, BYHAND, FASTER (Remove TYPIST) | 0.6126 |
| **OUTPUT MEASURES** | |
| 7. General Satisfaction with the Project ("IMPROVED") | |
| Variables: ENGWRIT2, ENGSPK2, ENGREAD2, ENGLIST2, COMPUSE, HLPCOM, REVISE, GOODRES | 0.8489 |
| 8. Self-Assessed Ability in the Four Skills ("SELFASS2") | |
| Variables: WRITE2, SPEAK2, READ2, UNDSTD2 | 0.6725 |

**APPENDIX N**
**Correlation Matrix for Input and Output Measures on Pre- and Post Model Surveys**

| | | HRSWEEK | SELFASS1 | IMPROVED | SELFASS2 |
|---|---|---|---|---|---|
| | *r* | 0.586 | -0.230 | -0.387 | -0.575 |
| CANDO | *p* | 0.000*** | 0.129 | 0.009** | 0.000*** |
| | *N* | 44 | 45 | 45 | 45 |
| | *r* | | -0.016 | -0.443 | -0.310 |
| HRSWEEK | *p* | | 0.918 | 0.003** | 0.040* |
| | *N* | | 44 | 44 | 44 |
| | *r* | | | 0.310 | 0.426 |
| SELFASS1 | *p* | | | 0.038* | 0.004** |
| | *N* | | | 45 | 45 |
| | *r* | | | | 0.459 |
| IMPROVED | *p* | | | | 0.002** |
| | *N* | | | | 45 |

$*p < 0.05$, $**p < 0.01$, $***p < 0.001$

**APPENDIX O**
**Suggested Timeline for Projects**

| **Two-Three Weeks Prior to Project** | ***Getting Ready*** <br> Send "hello" letter to partner teacher/s and test hardware and software. Develop a basic user guide or worksheet for your students, and include new vocabulary and terminology. Establish a dedicated bulleting board in class for the project. <br> Give students a computer interest survey to establish prior computer background, ability level, areas of interest , and ideas for projects. <br> Introduce the concept of e-mail to students. Give them time to learn the software and feel comfortable with it. Teach vocabulary, software instructions and review learning methods (cooperative learning and process writing, for example). |
|---|---|
| **Week One** | ***Beginning Student Interaction*** <br> Students send test messages and exchange lists of student names, e-mail addresses, and street addresses (for sending photos and packages). Teachers send "welcome" letters to students in partner class/es and explain project goals, timelines, evaluation methods, and student roles. |
| **Week Two** | ***Student Introductions and Surveys*** <br> Send student introductions or "ice breaker" activities (poems, short biographical sketches, etc.). This is also a good time to send a simple survey. Ask partners about their favorite foods, music, sports, the size of their school, school activities, special characteristics of their community, etc. |
| **Week Three** | ***Planning the Project*** <br> Have students discuss their ideas in class and on-line. You might even sponsor a contest to see which group comes up with the best idea. Negotiate and develop ideas in partnership with your partner school/s. |
| **Project Weeks** | ***Exchanging Student Work*** <br> Agree upon a project and set a reasonable time schedule. Remember to send at least one message each week—even if only to update partners on your progress. Teachers should schedule periodic evaluations as student work progresses. If something is not working, make appropriate changes as needed. |
| **Towards End of Project** | ***Metacognitive Focus on Writing*** <br> Students write and talk about their own writing. What are the strengths and |

| | |
|---|---|
| | weaknesses of their submissions? Which are their favorite pieces and why are they effective? What needs to be improved on?<br>***Peer Evaluation***<br>Using the writing process, students peer critique each other's written work and revise and polish drafts for publication.<br>Peer critiques can be done with partners in respective classes, as well as by pairing up with a partner from your partner school via e-mail. Using a rubric for evaluation is helpful.<br>*Organizing your Publication*<br>Select and edit articles received for your project. Consider graphics, others inclusions and cost. Teachers work with students to compile and print out the final product. |
| **Final Week** | ***Closure***<br>Students evaluate their project (on-line and in class) and come to a closure. This process can include "goodbye" letters, displays of realia from partner classes, exchanging addresses (street and e-mail) for the future and enjoying the final publication. |

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2003. Collaborative e-mail exchange for teaching secondary ESL: A case study in Hong Kong. Language Learning & Technology 7: 46â€"70.Google Scholar. Herring, Susan C. 1996.Â Cite this chapter as: Huang H. (2016) Openings and Closings in Intercultural Email Communication: A Case Study of Taiwanese, Japanese, and Italian Students. In: Chen Y., Rau DH., Rau G. (eds) Email Discourse Among Chinese Using English as a Lingua Franca. Springer, Singapore. https://doi.org/10.1007/978-981-287-888-5_9. This article presents data from a qualitative case study examining secondary ESL students' attitudes toward and perceptions of a collaborative e-mail exchange between a Form 4 (10th grade) ESL class in Hong Kong and an 11th grade English class in Iowa. The exchange was based on a researcher-designed instructional model, utilizing widely accepted theories and methods for modern second language instruction: cooperative learning, communicative language learning, process writing, project-based learning, and an integrated approach. Request PDF | On Jan 1, 2003, Mark Warschauer and others published Collaborative E-Mail Exchange for Teaching Secondary ESL: A Case Study in Hong Kong | Find, read and cite all the research you need on ResearchGate.Â Although the results of researches have shown that students and teachers generally indicated positive attitudes toward CALL ( Baloglu & Cevik, 2008;Greenfield, 2003;Kelm, 1998;Liaw, Huang & Chen, 2007;Mokhtari, 2013;Rahimi & Hosseini, 2011;Rahimi &Yadollahi, 2012;Smith, 2000;Stevens, 1991;Warschauer, 1996), the findings have also revealed some barriers such as lack of time, lack of technical and theoretical knowledge, financial. Become a successful Native English Teacher (NET) in Hong Kong. Familiarise yourself with the basics of Hong Kong's education system and language policies.Â On the completion of primary education, pupils will progress to secondary schools. Under the New Academic Structure (NAS), all students can benefit from 6 years of secondary education before they sit for one public examination â€" the Hong Kong Diploma Secondary Education Examination (HKDSE).Â Many schools in Hong Kong hire NETs to support and enhance English Language learning and teaching. The recruitment of NETs is not limited to public sector schools, as many kindergartens and private schools hire NETs too.