Effects of SCMC, ASCMC and FFC on Korean EFL Learners' Psychological Aspects

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This study aims to examine the effects of synchronous computer-mediated communication (CMC), asynchronous CMC and face-to-face communication on the psychological aspects of Korean EFL students. The psychological aspects in question include 'willingness to communication' and other affective variables, which prove to be conducive to communication in English. For this purpose, the present study analyzed students' psychological aspects during text-chatting, posting on a bulletin board, and oral discussion and compared the gain scores from pre-treatment and post-treatment questionnaires. The results revealed that face-to-face communication promoted students' psychological aspects by providing a real context for direct interaction. In contrast, synchronous chatting did not enhance students' psychological aspects. This might be due to several problems in implementation. Asynchronous posting on a bulletin board did not have much effect on students' psychological aspects. Findings suggest that face-to-face communication can provide a more favorable environment for encouraging positive psychological aspects toward English communication than the CMC modes. Pedagogical implications for the effective use of CMC are further discussed.

I. INTRODUCTION

Computer-mediated communication (CMC) has recently been regarded as a potential tool for accelerating the learning of a foreign language. Experimental research to incorporate CMC into foreign language teaching has demonstrated the greater effectiveness of CMC in language productivity compared to face-to-face communication (FFC) (Beauvois, 1992; Chun, 1994; Kern, 1995; Warschauer, 1996).

Although most CMC studies have been mainly concerned with synchronous CMC
asynchronous CMC (ASCMC, i.e., delayed-time interaction) has also been popular. Asynchronous CMC, similar to synchronous CMC, offers an easy means of collaborative communication for students beyond the temporal and locational restraints of the traditional classroom.

As the emphasis in language teaching and learning has shifted toward communication, a psychological concept, "willingness-to-communication" (WTC), has been added to the psychological variables influencing individual differences in language communication. This concept refers to the tendency of an individual to initiate communication when free to do so (McCroskey & Richmond, 1987). Following an examination of the interrelations among WTC and other affective variables, MacIntyre et al. (1998) conceptualized a heuristic model of WTC in L2. An increase in WTC and its related affective variables is hypothesized to predict actual communicative behavior.

Despite the innovative use of CMC for language learning, only a few empirical studies on psychological aspects have witnessed more positive attitudes and motivation during CMC activity (Beauvois, 1992, 1995). There have been even fewer systematic comparisons of how both CMC and FFC modes affect students' psychological aspects, especially in the Korean EFL context. The comparison between the two modes of CMC has also been scarce. Therefore, this study will focus on how students' psychological aspects including WTC and its related affective variables are affected in three different communication environments: SCMC, ASCMC and FFC.

II. THEORETICAL BACKGROUND

1. CMC as an innovative way of communicating

The recent increase in CMC has created a paradigmatic shift in teaching and learning second languages. A wealth of research has proposed that CMC represents an ideal medium for promoting second language acquisition. Most notably, CMC promotes interactive language learning and provides an opportunity for authentic use of the target language (Chun, 1994). It also encourages collaborative learning (Warschauer et al., 1994) and increases positive attitudes and motivation (Beauvois, 1992; Chun, 1994; Kern, 1995; Warschauer, 1996). Non-native speakers' passivity has been identified as one of the largest obstacles to communication and needs to be actively addressed. Thus, many language teachers have implemented CMC as a supplement to oral communication.
With the increasing popularity of CMC, the various forms of CMC have been introduced into language curriculum. Synchronous CMC, especially text-chatting, has so far been used in most cases due to its similarity to face-to-face communication. Students in SCMC send and receive messages instantly, employing a greater variety of communication strategies than they do in oral conversation (Kötter, 2003). Those devices were used to compensate the lack of visual and auditory aids in the text-based mode (Chu, 2006). As a result, both negotiated input and output can facilitate comprehension and foster the development of the learners' language competence. In addition to real-time chatting, asynchronous CMC provides another easy and collaborative way of communicating. Unlike SCMC, messages in ASCMC can be posted and read at any convenient time. ASCMC enables students to engage in on-line collaborative learning through many-to-many interaction outside the classroom. This time- and place-independent communication can allow students the time to process linguistic input and produce more elaborated and complex language.

2. CMC and psychological aspects

1) Psychological benefits through CMC

In addition to the linguistic benefits of CMC, studies attest to the psychological benefits to students in the CMC environment. First, CMC has been shown to enhance students' motivation for language practice and encourage greater involvement of students who do not often participate in oral discussions (Beauvois, 1992; Kelm, 1992 Kern, 1995; Warschauer, 1996). Thus, it could lead to a more democratic distribution of conversational power among students. Second, students have exhibited improved attitudes towards foreign language learning through participation in CMC. Beauvois (1992) found an enhanced sense of camaraderie and very positive responses to using online chatting. Similarly, Blake (2000) observed that CMC activities were thought to be fun, helpful and conducive to improving communication skills. Third, reduction of anxiety was found to be another factor contributing to positive psychological aspects through CMC activities. Beauvois (1997) noted that the slowing down of the communicative process on the computer provided a lower-anxiety communicative environment for students who find oral production in the second language classroom stressful (p. 213). In contrast, Sullivan and Pratt (1996) compared students in two ESL writing environments, a networked computer-assisted classroom and a traditional oral classroom, and found a significant gain in writing achievement from students in the
computer-assisted classroom, but no significant differences in writing apprehension.

2) "Willingness to communicate" as a new psychological aspect

Recently, "willingness to communicate" (WTC) has emerged as a useful concept to account for individual differences in L2 communication. With a great emphasis on communicative competence in L2 teaching and learning, differences in L2 communication need to be explained. Many researchers have attempted to examine the relationships between the postulated psychological variables and their effect on WTC in English. MacIntyre (1994) first developed a path model which suggests that WTC is based on a combination of greater perceived communicative competence and lower communication anxiety. Subsequent studies explored the relationships among affective variables underlying WTC in L2 by combining this WTC model with Gardner's socio-educational model (MacIntyre & Charos, 1996; MacIntyre & Clement, 1996). The socio-educational model of L2 acquisition (Gardner, 1985) assumes that integrativeness and attitude towards the learning situation contribute to the learner's motivation. Later, Macintyre, Clément, Dörnyei and Noels (1998) developed a heuristic model of WTC in L2 and explained WTC with linguistic, communicative, and social-psychological variables. According to the model, attitudes have indirect effects on WTC through motivation, and motivation influences WTC to succeed in SLA. Therefore, this heuristic model of WTC is argued to be both a practical and pedagogical explanation of individual differences in WTC leading to the success of SLA.

Questioning the applicability of the socio-educational model in an EFL context, some researchers have emphasized the need to reconsider integrativeness (Clément and Kruidenier, 1983 Dörnyei, 1990). Integrativeness refers to the desire to learn a L2 in order to meet and communicate with members of the L2 community. In an EFL context where there is little daily contact with native speakers of English, attitudes toward American culture are surely created through education and exposure to media. Thus, "international posture" was created and four indicator variables to define this new concept were identified (Yashima, 2000): (a) intercultural friendship orientation, (b) interest in foreign affairs, (c) intercultural approach-avoidance tendency, and (d) interest in international occupation. In an examination of relationships between this concept and other variables, Yashima (2002) found that international posture influences motivation, which influences proficiency in English. Also, motivation affected self-confidence in L2 communication, which finally led to WTC in L2.

In a similar EFL context, Seung-Jung Kim (2004) attempted to test MacIntyre &
Charos’ heuristic model to explain the diversity of WTC in Korean students and found that their model was reliable in the Korean EFL context. Attitudes were not directly related to WTC in English, but indirectly related through English learning motivation and confidence in English communication. In addition, English learning motivation was not directly related to WTC in English, but indirectly related to WTC in English through confidence in English communication. As well, the confidence in English communication was directly related to WTC in English. These results suggest that Korean EFL learners need to develop positive attitudes, higher motivation, and higher self-confidence in English for the purpose of enhancing their WTC in English.

**FIGURE 1**
L2 Communication Model (Based on MacIntyre et al’s Model, 1998)

In summary, many studies have examined WTC and the variables underlying WTC and have suggested those variables as predictors of L2 communication (Kim, S., 2004; Macintyre & Charos, 1996; Yashima, 2002). They have also shown that a lower level of

1) In the figure, ovals represent latent variables affecting WTC and small boxes represent indicator variables defining a latent variable. The arrows indicate the potential relationship between variables: Attitudes are directly related to WTC and indirectly related to WTC through motivation. Motivation is directly related to WTC and indirectly related to WTC through confidence in L2 communication. Confidence in L2 communication is directly related to WTC.
anxiety and a higher level of perceived competence led to a higher level of WTC, which finally led to more L2 use. They found as well that motivation influenced communicative competence. Based on these findings, this study investigates WTC and other affective variables related to WTC as psychological aspects of L2 learners. Figure 1 of the previous page illustrates the L2 communication model hypothesized from previous studies.

The purpose of this study was to explore the effects of the SCMC, ASCMC, and FFC modes on students' psychological aspects, employing the useful concept of WTC. For this purpose, the present study raised the following research questions.

1) What are the students' psychological aspects within each of the SCMC, ASCMC and FFC?
2) How different are the students' psychological aspects among the SCMC, ASCMC and FFC groups?

III. METHODOLOGY

1. Subjects

Sixty-nine Korean university students enrolled in three sections of a general English course participated in this study. They were all freshmen. During the course, students were given five small group discussion activities in which they had opportunities to share various opinions or experiences on what they have learned in every unit. For this study, one of the three sections completed these discussion activities using a text chatting tool, another completed them over a one week period on a bulletin board, and the third completed them as oral discussions. As mentioned above, CMC is time- and place-independent activity, so the two CMC groups were allowed to take part in the discussions outside the classroom, whereas the FFC group had oral discussions in the classroom only.

The three classes were taught by two instructors. The FFC group was taught by instructor A, while the SCMC and ASCMC groups were taught by the researcher. In an effort to minimize an instructor-effect, both instructors followed the same procedures and lesson plans. Moreover, neither of them participated in the small group discussions in an attempt to focus on learner-to-learner interactions.
2. Data Collection

In order to examine the students' psychological aspects within the three different communication modes, pre-treatment and post-treatment questionnaires were administered during the first and last week of the course. As the students were allowed to complete them outside the classroom, some data were found missing. As a result, there were 18 students in each group who submitted both questionnaires.

The questionnaire consisted of nine measures of psychological aspects, which represented four communication variables: WTC, confidence in English communication, attitude, and motivation (See Appendix). They had been identified in previous studies as important variables influencing communication (MacIntyre & Charos, 1996; Macintyre et al., 1998; Yashima, 2000). WTC in English included a single measure: (1) WTC in English (WTC). Confidence in English communication was assessed with two measures: (2) Perceived Competence in English (PC) and (3) Communication Anxiety in English (CA). Attitude was composed of four measures: (4) Intercultural Friendship Orientation (IFO), (5) Approach-Avoidance Tendency (AAT), (6) Interest in International Vocational Activities (IVA), and (7) Interest in Foreign Affairs (IFA). Motivation was represented by two measures: (8) Motivational Intensity (MI) and (9) Desire to Learn English (DLE).

Additionally, students were asked to write freely about the use of the assigned communication mode at the beginning and end of treatment. Comments from students will be used to help give meaningful interpretation on the results from questionnaires.

After gathering all questionnaires, the values of all items were aggregated and marked to specify each indicator variable. Values of negative items, the measure of 'approach-avoidance tendency', were reversed before the aggregation.

Finally, statistical analysis was performed to answer the research questions. A paired t-test was administered to examine if there was significant change within each group. One-way ANOVA was conducted on the gain scores of the three groups to find out whether there were significant differences among the SCMC, ASCMC and FFC groups, taking into account the initial differences.

IV. RESULTS AND DISCUSSION

1. Psychological aspects in SCMC, ASCMC and FFC
To answer the question of what psychological aspects students in SCMC, ASCMC and FFC show, paired t-tests were used to examine if there would be a significant difference between pre-treatment and post-treatment questionnaires within each group. The results are summarized in Table 1.

As indicated below, the SCMC group showed a significant decrease in the measure of 'Desire to Learn English' (gain score \( M = -5.06, p = .014^* \)), which implies a decline in most of the measures. A similar decrease was found in 'WTC' (gain score \( M = -5.56 \)), but it was not significant (\( p = .156 \)). The ASCMC group did not show any significant differences between pre- and post-treatment questionnaires in any of the measures. The FFC group displayed a significant increase in the measure of 'Interest in Foreign Affairs' (gain score \( M = 1.20, p = .016^* \)), with some increase in most of the other measures.

| TABLE 1 | The Paired T-Test Results of the Pre-Treatment and Post-Treatment Questionnaires |
|---|---|---|---|---|---|---|
| | SCMC | | ASCMC | | FFC | |
| | Pre/Post | \( p \)-value | Pre/Post | \( p \)-value | Pre/Post | \( p \)-value |
| 1) WTC | 50.21/44.6 | .156 | 51.22/43.7 | .076 | 50.99/50.1 | .886 |
| 2) PC | 32.02/33.9 | .801 | 30.83/34.5 | .505 | 34.92/45.0 | .133 |
| 3) CA | 61.69/58.5 | .56 | 50.56/51.1 | .902 | 49.78/50.9 | .925 |
| 4) IFO | 16.06/15.6 | .751 | 16.38/18.4 | .129 | 14.67/16.6 | .096 |
| 5) AAT | 32.56/30.3 | .118 | 27.27/29.0 | .279 | 31.73/31 | .704 |
| 6) IVA | 22.13/21.2 | .592 | 20.6/22.47 | .191 | 22.03/23.8 | .403 |
| 7) IFA | 8.63/8.75 | .843 | 7.44/8.50 | .139 | 7.80/9 | .016^* |
| 8) MI | 26.81/23.8 | .106 | 25.13/24 | .559 | 23.06/23.7 | .708 |
| 9) DLE | 23.56/18.5 | .014^* | 21.6/21 | .644 | 23.47/25.2 | .146 |

In contrast to previous findings, the synchronous chatting did not have positive effects on students' psychological aspects. This result might have to do with the negative attitudes of students towards the use of SCMC, which are evident in some students' final comments. Students expressed several difficulties with chatting during the course. First, as numerous messages popped up simultaneously and were sometimes overlapped, students lost track of what messages they were responding to. Second, the time- and place-independent nature of SCMC made it harder for all students within a group to sit in front of computers outside the classroom at a scheduled time. A few students were
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absent from the chatting activity without notice. Third, although students carried on conversations via computer, they tended to get off-topic discussing personal subjects that were irrelevant to the task (Schultz, 1995). Irrelevant messages among students discouraged them from popping up the conversation immediately. These negative reactions to SCMC were also mentioned in Choi's study (2004). She found that more than half of the students regarded English text chatting as less enjoyable and less efficient due to various difficulties in implementing it. As a result, students' 'desire to learn English' in SCMC drastically decreased.

In contrast, the FFC group showed overall improvement in most measures, demonstrating a significant increase in 'interest in foreign affairs'. This finding is consistent with that of Kim (2002) who reported that many students preferred FFC to CMC due to the fact that there is little risk of misunderstanding in the context-rich FFC. Han (2007) indicated that visual and auditory aids play a crucial role in FFC to keep conversations going. Without such aids in SCMC, however, students must use more communication strategies to compensate for the lack of them. The oral discussions held in the FFC group must have been enjoyable experiences for students, providing more interest in international issues and promoting positive psychological aspects.

The ASCMC group exhibited little change in psychological aspects. In asynchronous discussions on a bulletin board, student response time is delayed and students' psychological aspects seem to be less positively affected by this than by FFC. In addition, ASCMC shows strong resemblance to writing and psychological aspects used in this study are closely related to communication. Thus, the psychological aspects of students participating in ASCMC did not show any significant change.

Counter to assumption, all three groups failed to report significant improvement in psychological aspects. This can be explained by the fact that participants did not participate actively in the small group discussions. Students in the three groups showed strong interest in new experiences at the beginning of the course. Right after the first participation in a small group discussion, most of them reported that English discussion seemed difficult, but was definitely interesting. Moreover, students reported that they expected to benefit from extra English practice through this activity. Unfortunately, they did not make serious efforts to take part in the small group discussions. They expressed regret in their final comments and added that their English could have improved if they had put in more effort.

In sum, FFC seems to be an optimal environment for improving students' psychological aspects during communication. Students' psychological aspects, especially 'interest in foreign affairs', were enhanced through oral discussion. In contrast, SCMC
evoked negative reactions to it due to inefficiencies in its use and students did not show any improvement in psychological aspects. ASCMC also had less of an influence on students' psychological aspects, which is attributed to its delayed response time and written characteristics.

2. Comparison of psychological aspects among SCMC, ASCMC and FFC

To examine the degree of differences in the students' psychological aspects among the SCMC, ASCMC and FFC modes, one-way ANOVA was conducted to compare gain scores between pre-treatment and post-treatment questionnaires among the three groups. This study checked to see if any initial differences in the nine measures of psychological aspects existed among the three groups. The results of ANOVA show that the three groups had similar psychological aspects in all measures. The results did not show significant differences in most of the measures, except in 'desire to learn English' (p=.006*) (Table 2).

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<th>SCMC</th>
<th>ASCMC</th>
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<td>Gs Mean</td>
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<td>1) WTC</td>
<td>-5.56</td>
<td>4.88</td>
<td>-7.46</td>
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<td>2) PC</td>
<td>1.85</td>
<td>9.6</td>
<td>3.73</td>
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<tr>
<td>3) CA</td>
<td>-3.19</td>
<td>1.4</td>
<td>.61</td>
<td>9.42</td>
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<tr>
<td>4) IFO</td>
<td>-0.44</td>
<td>5.4</td>
<td>2.06</td>
<td>5.13</td>
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<tr>
<td>5) AAT</td>
<td>-2.19</td>
<td>5.27</td>
<td>1.8</td>
<td>6.19</td>
</tr>
<tr>
<td>6) IVA</td>
<td>-.88</td>
<td>6.39</td>
<td>1.87</td>
<td>5.26</td>
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<tr>
<td>7) IFA</td>
<td>.13</td>
<td>2.47</td>
<td>1.06</td>
<td>2.72</td>
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<tr>
<td>8) MI</td>
<td>-2.94</td>
<td>6.83</td>
<td>-1.13</td>
<td>7.54</td>
</tr>
<tr>
<td>9) DLE</td>
<td>-5.06</td>
<td>7.27</td>
<td>-.6</td>
<td>4.93</td>
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</table>

The following Tukey HSD test demonstrates that a significant difference existed between the SCMC and FFC groups, whereas no differences were observed between the SCMC and ASCMC groups or the ASCMC and FFC groups (Table 3).
Effects of SCMC, ASCMC and FFC on Korean EFL learners'...  

### TABLE 3  
Post Hoc Analysis: Results of Tukey HSD

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<td>A/B</td>
<td>-0.06</td>
<td>B</td>
<td>1.73</td>
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'Willingness to Communicate in English' (WTC) decreased in all three groups throughout the course, though a larger decline was seen in both the CMC groups. These results might be related to students' conventional belief. A majority of students in the CMC groups believed that since their discussions were performed in written form, they were irrelevant to oral communication. A few students in the ASCMC group expressed doubts about how well they could discuss orally, although they felt that their writing was improving. On the other hand, the FFC group expressed disappointment with their failure to improve their speaking skills, as well as the perception that their willingness to communicate had not increased greatly.

It is more noteworthy that all three groups improved in 'Perceived Communication Competence' (PC), with the FFC group showing the largest gain. Students in all three groups had agreed to take this opportunity to produce English because their English instruction had so far focused only on the receptive skills of reading and listening. Although the students were intimidated by producing English despite their poor skills, they gradually got accustomed to it. This activity focusing on productive skills seemed to help strengthen students' perceived competence even though this study does not prove a positive relationship between willingness to communicate and perceived competence. These findings suggest that direct, face-to-face interaction can enhance real communication competence and that indirect interaction through the computer may develop virtual communication competence.

Interestingly, 'Communication Anxiety in English' (CA) decreased only in the SCMC group. This finding seems to be consistent with those of previous studies, which reported that language anxiety was minimized by on-line discussion because it provided a less threatening environment in which students could communicate in the target language (Beauvois, 1995; Kern, 1995; Warschauer, 1996). Synchronous discussion can therefore be claimed to provide a lower affective filter and reduce communication anxiety.

On the other hand, the ASCMC and FFC groups did not show any decrease of anxiety despite their increase in perceived competence. This may have to do with the
psychological pressure they felt during the discussion sessions. The ASCMC group might have been conscious of the fact that their poor writing on the bulletin board would be exposed to others for an extended period of time and that they could be ridiculed by other students. Similarly, the FFC group might still feel a sense of pressure and threat during face-to-face interaction because Korean students usually consider making language mistakes as seriously losing face (Kim, S., 2000). Although Yashima (2002) noted that 'communication anxiety in English' and 'perceived competence in English' are negatively correlated as predictor variables of 'confidence in English communication', the results of the present study did not reveal such a negative correlation.

In both categories of motivation, 'Motivational Intensity' (MI) and 'Desire to Learn English' (DLE), students demonstrated an increase only in the FFC group. Notably, a significant difference was found between the SCMC and FFC groups in 'Desire to Learn English'. As mentioned above, there were some difficulties implementing the text-chatting activities, which led to inefficiencies in SCMC and resulted in students' negative attitudes. As a consequence, the SCMC group's desire to learn English was deteriorated greatly.

The data shows that all three groups showed little change in 'Intercultural Friendship Orientation', 'Approach-Avoidance Tendency', 'Interest in International Vocation' and 'Interest in Foreign Affairs'.

Contrary to its assumption, the present study did not find a significant difference in psychological aspects of students participating in SCMC, ASCMC and FFC, except in the measure of 'Desire to Learn English'. Kim (2006) found that affective variables influenced on the provision and uptake of recasts more in the interaction with a native speaker (NS) interlocutor than with a non-native speaker (NNS). Accordingly, the author suggests that affective variables should be considered more in interaction with a NS instructor: therefore, it is possible that students' interactions with the NNS in the present study did not contribute much to improvement in their psychological aspects.

In sum, it seems that direct and immediate interaction in face-to-face communication can promote learner motivation better than computer-mediated communication, especially 'desire to learn English'. From linguistic benefits in CMC found in previous studies, positive psychological conditions need to be provided for an effective CMC mode.

V. CONCLUSION
This study attempted to examine the effects of SCMC, ASCMC and FFC on some psychological aspects of Korean EFL students, and found that only FFC provided a favorable environment for promoting students' psychological aspects. The psychological aspects used in this study included 'Willingness to communicate' and other affective variables, which proved to be significantly related to communication in L2. The FFC group showed overall improvement in most of psychological measures, especially 'Interest in Foreign Affairs'. In contrast, the SCMC group showed a significant decrease in 'Desire to Learn English'. The ASCMC group showed only small changes in psychological aspects throughout the study. The comparison among the three groups showed a significant difference only in 'Desire to Learn English' between SCMC and FFC groups.

The findings have important implications for designing effective English discussion activities. Face-to-face communication increased students' psychological aspects by providing a real context for direct interaction, which proved to be beneficial to motivation, 'Desire to Learn English'. In spite of overall improvement, students' anxiety, 'Communication Anxiety in English', did not decrease. Students still felt intimidated by making mistakes in face-to-face interactions. One possible way to overcome this obstacle would be to teach students useful communication strategies, which would help them keep their interactions in English. This could help anxious students lower their affective filter and feel freer to engage in oral discussion.

It seems that despite some linguistic benefits found in synchronous chatting, this mode of communication did not increase students' psychological aspects. Text-chatting can disrupt the natural flow of interchange due to slow typing speed and the fact that numerous messages can appear on one screen at the same time. These constraints may make synchronous chatting more suitable for pair work. In this study, chat groups consisted of four or five students, which posed a problem for efficient student discussion. For SCMC to be effective, such issues of implementation must be considered.

Asynchronous posting on a bulletin board did not have any effect on students' psychological aspects. ASCMC is closer to writing than oral communication and is less likely to be affected by oral communication-related psychological aspects. On the other hand, a majority of students agreed that they were getting more confident writing in English, but were uncertain if they could perform oral discussion as well. It has been suggested that the linguistic skills gained through much practice with the written form are transferable to oral skills (Chun, 1994). Therefore, it is conceivable that students' perceived competence in writing could result in improvements in their oral linguistic
output as well as in their psychological aspects.

Although the findings of the study are meaningful, several limitations should be noted. First, the duration of treatment in the three different communication modes may not have been long enough to detect real changes in students' psychological aspects. Students participated in five small group discussions of around twenty minutes each. There is therefore the need to replicate this research using a longer period of treatment. Second, small group discussion was performed among NNS learners, taking advantage of learner-to-learner interaction. Considering that participants in this study were low-intermediate level, they might need a figure with higher proficiency, for example, a teacher, or more proficient learners to help complement their less proficient English and lead the discussion. Thus, the findings are limited to subjects with a similar level of English.

The present study focused on students' psychological aspects in different communication modes. The use of particular communication modes was found to have an effect on psychological aspects. Further, positive psychological aspects can be expected to encourage student production of language. As CMC has been increasingly incorporated into English language classes as a supplement to oral communication, subsequent oral communication to CMC activity should be examined. Therefore, future research on the relationship between students' psychological aspects and oral output is warranted.

REFERENCES


**APPENDIX: Questionnaire of Psychological Aspects**

이 설문지는 중급 회화 및 작문 수강자들이 효과적으로 영어를 학습할 수 있는 방안을 연구하기 위해 작성되었습니다. 여러분의 솔직한 응답을 부탁드립니다.

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* 다음의 문항을 읽고, 자신이 해당한다고 생각하는 가장 적합한 곳을 폴라 “O” 표 하시오(1-31).

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1. 나는 여러 방면의 사람들과 많이 만나고 대화를 나누기 위해 영어 공부한다.
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   전형 __1__ __2__ __3__ __4__ __5__ __6__ __7__ 매우
   그렇지 않다.  
3. 나는 다른 문화 집단의 활동에 자유롭게 참여하기 위해 영어 공부한다.
   전형 __1__ __2__ __3__ __4__ __5__ __6__ __7__ 매우
   그렇지 않다.  
4. 나는 외국인 친구를 사귀고 싶어서 영어 공부한다.
   전형 __1__ __2__ __3__ __4__ __5__ __6__ __7__ 매우
   그렇지 않다.  
5. 다른 친구들과 비교해서 나는 영어를 비교적 더 열심히 공부한다고 생각한다.
   전형 __1__ __2__ __3__ __4__ __5__ __6__ __7__ 매우
   그렇지 않다.  
6. 나는 종종 영어시간에 배운 단어나 아이디어들에 대해 생각한다.
   전형 __1__ __2__ __3__ __4__ __5__ __6__ __7__ 매우
   그렇지 않다.  
7. 만일 학교에서 영어를 배우지 않더라도 나는 스스로 찾아서 영어 공부할 것이다.
   전형 __1__ __2__ __3__ __4__ __5__ __6__ __7__ 매우
   그렇지 않다.
8. 나는 상당히 많은 시간을 영어 공부에 할애한다고 생각한다.
   전혀 1 2 3 4 5 6 7 매우
   그렇지 않다. 그렇다

9. 나는 영어를 배우려고 정발로 노력한다.
   전혀 1 2 3 4 5 6 7 매우
   그렇지 않다. 그렇다

10. 나는 대학 졸업 후에도 영어를 계속 공부해서 실력을 향상시키도록 노력할 것이다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

11. 나는 영어로 해야 할 과제가 있으면, 즉시 그것을 하려고 노력한다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

12. 나는 영어 수업시간 외에 영자 신문이나 잡지를 읽곤 한다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

13. 영어 수업시간 동안, 나는 수업에 몰두하여 공부에 집중한다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

14. 나는 학교 영어 수업시간을 늘렸으면 한다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

15. 나는 영어를 학교에서 가르쳐야 한다고 절대적으로 믿는다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

16. 나는 영어가 다른 과목보다 재미있다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

17. 나는 한국에서 공부하고 있는 유학생들과 친구가 되고 싶다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

18. 나는 외도록이면 외국인들과 대화하는 것을 피하려 한다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

   8. 나는 상당히 많은 시간을 영어 공부에 할애한다고 생각한다.
   전혀 1 2 3 4 5 6 7 매우
   그렇지 않다. 그렇다

   9. 나는 영어를 배우려고 정발로 노력한다.
   전혀 1 2 3 4 5 6 7 매우
   그렇지 않다. 그렇다

   10. 나는 대학 졸업 후에도 영어를 계속 공부해서 실력을 향상시키도록 노력할 것이다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

   11. 나는 영어로 해야 할 과제가 있으면, 즉시 그것을 하려고 노력한다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

   12. 나는 영어 수업시간 외에 영자 신문이나 잡지를 읽곤 한다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

   13. 영어 수업시간 동안, 나는 수업에 몰두하여 공부에 집중한다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

   14. 나는 학교 영어 수업시간을 늘렸으면 한다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

   15. 나는 영어를 학교에서 가르쳐야 한다고 절대적으로 믿는다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

   16. 나는 영어가 다른 과목보다 재미있다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

   17. 나는 한국에서 공부하고 있는 유학생들과 친구가 되고 싶다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다

   18. 나는 외도록이면 외국인들과 대화하는 것을 피하려 한다.
    전혀 1 2 3 4 5 6 7 매우
    그렇지 않다. 그렇다
19. 만약 학교에 유학생이 있다면 그 학생에게 말을 걸 것이다.
전혀 _1_ 2_ 3_ 4_ 5_ 6_ 7_ 매우
그렇지 않다.
 그렇다
20. 나는 유학생과 같이 방 쓰는 것을 꺼리하지 않는다.
전혀 _1_ 2_ 3_ 4_ 5_ 6_ 7_ 매우
그렇지 않다.
 그렇다
21. 나는 아웃에 살고 있는 외국인을 돕기 위해 자원봉사활동에 참여하고 싶다.
전혀 _1_ 2_ 3_ 4_ 5_ 6_ 7_ 매우
그렇지 않다.
 그렇다
22. 나는 외국인이 엿잡으로 이사 오면 좀 불편한 느낌이 든다.
전혀 _1_ 2_ 3_ 4_ 5_ 6_ 7_ 매우
그렇지 않다.
 그렇다
23. 나는 음식점이나 역에서 의사소통이 되지 않는 외국인을 보면 도와주고 싶다.
전혀 _1_ 2_ 3_ 4_ 5_ 6_ 7_ 매우
그렇지 않다.
 그렇다
24. 나는 지금 살고 있는 거주지(hometown)에 계속 살고 싶다.
전혀 _1_ 2_ 3_ 4_ 5_ 6_ 7_ 매우
그렇지 않다.
 그렇다
25. 나는 외국에 살고 싶다.
전혀 _1_ 2_ 3_ 4_ 5_ 6_ 7_ 매우
그렇지 않다.
 그렇다
26. 나는 UN과 같은 국제기구에서 일하고 싶다.
전혀 _1_ 2_ 3_ 4_ 5_ 6_ 7_ 매우
그렇지 않다.
 그렇다
27. 나는 YIDA(국제 청소년 발달 지원)와 같은 개발도상국에서의 자원봉사 활동에 관심이 있다.
전혀 _1_ 2_ 3_ 4_ 5_ 6_ 7_ 매우
그렇지 않다.
 그렇다
28. 나는 외국에서 일어나는 일이 내 일상생활과 관계가 없다고 생각한다.
전혀 _1_ 2_ 3_ 4_ 5_ 6_ 7_ 매우
그렇지 않다.
 그렇다
29. 나는 외국에 자주 나가야 하는 직업을 되도록이면 피하고 싶다.
전혀 1 2 3 4 5 6 7 매우
그렇지 않다. 그렇다.

30. 나는 종종 해외 뉴스에 대한 기사를 읽거나 본다.
전혀 1 2 3 4 5 6 7 매우
그렇지 않다. 그렇다.

31. 나는 종종 친구나 가족들과 해외 사건/상황들에 대해 얘기한다.
전혀 1 2 3 4 5 6 7 매우
그렇지 않다. 그렇다.

* 다음 항목들은 영어로 대화할 수 있는 20가지의 상황입니다. 당신은 각 상황에서 영어로 대화할 시각할 수도 있고 대화를 회피할 수 있습니다. 당신은 어느 쪽이든 자유롭게 선택할 수 있습니다. 각 항목의 원쪽 빈 칸에 당신이 주어진 상황에서 "영어로" 대화를 할 건지 아니면 하지 않을 건지에 대한 선택을 "%"(0%-100%)로 나타내시오.

<table>
<thead>
<tr>
<th>0%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>[예] 25%, 50%, 90% (0-100 사이 어떤 숫자든 가능)</td>
<td></td>
</tr>
</tbody>
</table>

1. 엘리베이트 안에서 안면이 있는 사람들과 대화한다.
2. 버스에서 낯선 사람과 대화한다.
3. 낯선 사람들 무리(30명)에게 공개적으로 얘기한다.
4. 줄을 서 있는 동안 안면이 있는 사람들과 대화한다.
5. 상점에서 판매원과 대화한다.
6. 큰 모임의 친구들(10명) 사이에서 얘기한다.
7. 학교 경비원과 대화한다.
8. 소규모의 낯선 사람들(5명) 사이에서 얘기한다.
9. 줄을 서 있는 동안 친구와 대화한다.
10. 식당에서 종업원과 대화한다.
11. 큰 모임의 안면이 있는 사람들(10명) 사이에서 얘기한다.
12. 줄을 서 있는 동안 낯선 사람들과 대화한다.
13. 학교 사무실 직원과 대화한다.
14. 친구들 무리(30명)에게 공개적으로 얘기한다.
15. 소규모의 안면이 있는 사람들(5명) 사이에서 얘기한다.
Effects of SCMC, ASCMC and FFC on Korean EFL learners...

16. 남자친구/여자친구와 대화한다.
17. 큰 모임의 낙선 사람들(10명)사이에서 얘기한다.
18. 도서관 사서와 대화한다.
19. 소규모의 친구들(5명)사이에서 얘기한다.
20. 안면이 있는 사람들 무리(30명)에게 공개적으로 얘기한다.

* 다음 항목들은 12가지 대화상황입니다. '영어로' 대화를 능숙하게 할 수 있는 능력은 사람들마다 다르며, 때로는 동일한 사람일지라도 특정 상황에 따라 대화능력이 다릅니다. 주어진 상황에서 당신은 '영어로' 얼마나 대화를 할 수 있다고 생각하는지 써 보시오. 각 항목의 원쪽에 당신이 가는하는 자신의 영어대화능력을 써 넣으시오.

<table>
<thead>
<tr>
<th>0% (전혀능력이 없다)</th>
<th>100% (완벽한능력을 가지고 있다)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[예] 10%, 55%, 80% (0-100 사이 어떤 숫자든 가능)</td>
<td></td>
</tr>
</tbody>
</table>

1. 낙선 사람들 무리(30명)에게 공개적으로 얘기한다.
2. 안면이 있는 사람과 대화한다.
3. 큰 모임의 친구들(10명)사이에서 얘기한다.
4. 소규모의 낙선 사람들(5명)사이에서 얘기한다.
5. 큰 모임의 안면이 있는 사람들(10명)사이에서 얘기한다.
6. 낙선 사람과 대화한다.
7. 소규모의 안면이 있는 사람들(5명)사이에서 얘기한다.
8. 친구들 무리(30명)에게 공개적으로 얘기한다.
9. 친구와 대화한다.
10. 큰 모임의 낙선 사람들(10명)사이에서 얘기한다.
11. 소규모의 친구들(5명)사이에서 얘기한다.
12. 안면이 있는 사람들 무리(30명)에게 공개적으로 얘기한다.

* 다음 항목들은 12가지 대화상황입니다. 주어진 상황에서 당신이 영어로 대화할 때 얼마나 불안(긴장)해하는지 나타내보시오. 각 항목 원쪽에 당신이 긴장한다고 느끼는 정도를 표시하시오.
0% (전혀 불안하지 않다) ~ 100% (항상 불안하다)
[예] 30%, 70%, 100% (0-100 사이 어떤 숫자든 가능)

1. 낯선 사람들 무리(30명)에게 공개적으로 얘기한다.
2. 안면이 있는 사람과 대화한다.
3. 큰 모임의 친구들(10명) 사이에서 얘기한다.
4. 소규모의 낯선 사람들(5명) 사이에서 얘기한다.
5. 큰 모임의 안면이 있는 사람들(10명) 사이에서 얘기한다.
6. 낯선 사람과 대화한다.
7. 소규모의 안면이 있는 사람들(5명) 사이에서 얘기한다.
8. 친구들 무리(30명)에게 공개적으로 얘기한다.
9. 친구와 대화한다.
10. 큰 모임의 낯선 사람들(10명) 사이에서 얘기한다.
11. 소규모의 친구들(5명) 사이에서 얘기한다.
12. 안면이 있는 사람들 무리(30명)에게 공개적으로 얘기한다.