

研究ノート

A Comparative Study of the Benefits of Synchronous Computer-Mediated Communication (SCMC) in Relation to Language Related Episodes (LREs)

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要 旨

本研究は、交渉的な学習タスクによる「コンピューターを用いた同時コミュニケーション (Synchronous Computer-Mediated Communication: SCMC)」の効果を検証したものである。この目的のために、20人の学生がチャットによる筆記とスカイプによる発話に基づく数々の交渉的な学習タスクに自主的に参加した。そして質問紙や討論による学習者自身の印象に加え、これらのSCMCメディアの直接／間接的な効果が、Swainが定義するところの「言語関連事象 (Language related episodes: LREs)」の「共同対話」の分析により認められた。この結果より、スカイプは、意味交渉や修正されたアウトプットの産出と同様、聴解と発音技能の向上に効果があることがわかった。一方チャットは、コミュニケーション能力に注視しながらも、文法的／語彙的な正確さに資することが確認された。

キーワード：コンピューターを用いた言語学習 Computer-Assisted Language Learning (CALL), チャット Text-Chat, スカイプ Skype, 交渉的学習タスク Negotiated Learning Tasks, 言語関連事象 Language Related Episodes

Abstract

This research project investigated the benefits of Synchronous Computer-Mediated Communication (SCMC) through negotiated learning tasks. For this purpose, twenty volunteer students completed a number of negotiated task-based learning activities using text-chat and Skype voice. The direct and indirect benefits of these SCMC media were then explored by examining the frequency of language related episodes (LREs) “instances of collaborative dialogue” as described by Swain, (2001b, as cited in Zeng & Takatsuka, 2009, p.436), as well as, by looking at the students’ own impressions through questionnaires and discussions. From this data we concluded that Skype voice was advantageous in promoting listening and pronunciation skills as well as for negotiation of meaning and production of modified output. Text-chat, on the other hand, was more conducive to the study of grammatical and lexical accuracy while also focusing on communication skills.

Introduction

1.1 Connectivism

In the age of globalization the world is in a perpetual state of change. The transformation of our living environment is unremitting as advancements in technology constantly impact on how we live our lives. The integration of technology into society has reached such a point now, that we no longer see things as: video conferencing, touch screen interface, and instant messaging as the exception, but rather the norm. For young people today, the first generations born into this digital era, living in a place and time without such technological trappings would almost be incomprehensible. For today’s average college graduates, twice as many hours are spent playing video games as compared to reading books (not to mention, four times as much time spent on watching TV) (Prensky, 2001, p.1). Email, the Internet, and cell phones are fundamental parts of their lives. ‘Speed’ and ‘Connectivity’ are two catch phrases that come to mind when describing the contemporary world. The

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rapid fire pace at which information is zipped through fiber-optic cables has in turn led to a shrinking half-life of knowledge (Siemens, 2005). According to the American Society of Training and Documentation (ASTD), “Half of what is known today was not known ten years ago... the amount of knowledge in the world has doubled in the past 10 years and continues to double every 18 months” (Gonzalez, 2004). Knowledge is growing exponentially and young people no longer feel it necessary to have to sit in a classroom to learn something. Vast channels of information are readily accessible to them at the touch of a button and informal learning now accounts for a much larger percentage of their overall learning experience. Learning now occurs in a variety of ways—through communities of practice, personal networks, and through completion of work related tasks (Siemens, 2005).

Let us face the facts; the student of today is a very different specimen from that of his or her counterpart some twenty something years ago. The vast amount of information available today has necessitated a change in the way it is acquired and processed. ‘Digital Natives’ are used to receiving information very quickly and prefer to parallel process and multi-task (Prensky, 2001). In educational terms this means that the conventional teaching process of slow, step-by-step, one thing at a time instruction, may now be outdated for today’s younger learners. For us as teachers to be able to capture our digital audience’s imaginations and hold their focus, new ways must be learned to teach traditional materials.

1.2 Making a Shift towards SCMC

There is now a growing interest in the ways computer networks can be utilized for second language acquisition purposes. Advancements in technology now provide students with opportunities to interact in online environments similar to face-to-face communication. In recent years, research into Synchronous Computer-Mediated Communication (SCMC) technologies has explored in greater depth how different configurations of telecollaboration, from real-time text-chatting to videoconferencing, can and have impacted on students’ language development (Belz & Vyatkina, 2005; Dussias, 2006; Lee, 2004; Yamada, 2009). A smaller number of studies within this paradigm (Belz, 2006; Lee, 2006; Sotillo, 2005) have particularly focused on the value of having students actively reflect on language form for linguistic development in telecollaborative exchanges (Ware

& O'Dowd, 2008, p.43). From what the data has shown, these new media forums appear to compliment new approaches to language teaching, where students are seen as active agents, collaborating in their own learning process (Warschauer, 2000).

Theoretical Framework

2.1 Input to Output

In Krashen's renowned hypothesis on *Comprehensible Input* (1982, 1998) he states that in order for input to be available for acquisition, it must be comprehensible to the learner. According to this hypothesis, the learner improves and progresses along the 'natural order' when he/she receives second language 'input' that is one step beyond his/her current stage of linguistic competence. For example, if a learner is at a stage 'i', then acquisition takes place when he/she is exposed to comprehensible input that belongs to level 'i + 1'. Since not all learners can be at the same level of linguistic competence at the same time, Krashen suggests that *Natural Communicative Input* is the key to syllabus design, ensuring that each learner will receive some 'i + 1' input that is appropriate for his/her current stage of linguistic competence.

In Swain's later hypothesis about *Comprehensible Output* (1985a, b; 1995), she proposes that comprehensible input, while fundamental, is not completely sufficient for certain aspects of L2 acquisition. She claims that in order for L2 acquisition to take place, the learner's own use of comprehensible output is also essential. According to Swain (1995) output serves three main functions; to prompt learners to test hypotheses, allow them to notice gaps in language use, and act as a springboard for metalinguistic awareness (as cited in Farrokhi & Gholami, 2007, p.59). This means that through speaking, one's thoughts can be externalized and as they are externalized as utterances, they can then be scrutinized, questioned, reflected upon, disagreed with, changed, or disregarded (Swain, 2002). The idea of bringing learners' attention to gaps in their language use was similarly coined by Schmidt as *Noticing* in 1990. Through his *Noticing* hypothesis, Schmidt argues that noticing would facilitate learning and "those who notice most learn most, and it may be that those who notice most are those who pay attention most, as a general disposition or on particular occasions" (Schmidt, as cited in Ismail & Samad, 2010, p.89).

2.2 Metatalk or LREs

These instances of ‘noticing’ language are defined as Metatalk or LREs (Language Related Episodes) by Swain (1998) and are presently claimed to be a prerequisite for L2 acquisition. Metatalk is language that is used to reflect consciously on language use. It is considered to be a sort of collaborative dialogue if you will—a dialogue in which speakers are engaged in problem-solving and knowledge building together (Swain, 2000).

Swain often uses the terms LREs and Metatalk interchangeably and explains that it is through such LREs that “learners may (a) question the meaning of a linguistic item; (b) question the correctness of spelling/pronunciation of a word; (c) question the correctness of a grammatical form; or (d) implicitly or explicitly correct their own or other’s usage of a word, form or structure” (Swain, 1998, as cited in Ismail & Samad, 2010, p.89). Although it cannot be guaranteed that acquisition will certainly take place in the presence of LREs, it can be argued that this kind of uptake is an important first step in that direction. “Learners’ active participation can be an important factor in processing input... Learners, especially those beyond the beginner level can and do draw attention to form in ways that can benefit other learners” (Williams, 2001, p.338).

Other research in task-based teaching has also shown the importance of peer-peer dialogue on features of second language learning. The opportunity to talk and discuss language and writing issues with each other allows learners “to consolidate and reorganize knowledge of the L2 in structure and rhetorical aspects and to make this knowledge explicit for each other’s benefit” (De Guerrero & Villamil, 2000, as cited in Lapkin and Swain, 2002, p.287).

2.3 Focus on Form / Task-Based Language Teaching (TBLT)

LREs have received considerable attention in focus-on-form (Task-Based Language Teaching) research, given that this kind of attention to form “may serve the function of helping students to understand the relationship between meaning, forms, and function in a highly context-sensitive situation” and “may represent language learning in progress” (Swain, 1998, p.69).

Comprehensible Output hypothesis and *Noticing* hypothesis have laid the foundation for focus-on-form instruction or TBLT, defined here as: “an occasional shift of attention to linguistic code features—by the teacher and/or one or more of the learners—triggered by perceived problems with comprehension or production” (Long and Robinson, 1998, p.23). A focus-on-form lesson would focus on communication, while language forms such as grammar, vocabulary, or pronunciation are dealt with as and when the need arises in the course of meaning-making. Focus on form provides opportunities for pushed output which stretches learners’ competence through the need to express themselves in language that is accurate and appropriate (Swain, 2002).

Second Language Acquisition (SLA) researchers now recognize the potential of task-based instruction to create more opportunities to negotiate meaning than traditional instruction (Long, 1991, Robinson, 2001) and that it is particularly useful in facilitating the development of accuracy in language production (DeKeyser, 2001).

Research Project

3.1 Research Questions

In response to the changing learning styles of the *Digital Natives* and the new opportunities afforded by advancing technologies for more ways to communicate, it was decided to do a comparative investigation into the perceived and provable benefits to SLA using Skype voice and Skype text-chat as media. Despite studies being done of the benefits of text-chat, few studies have been of a comparative nature for the different media and their benefits. The present exploratory study sought to answer the following research questions:

- Which medium (voice or text-chat) is the most effective for making students reflect on language form?
- Which medium, do students feel is most beneficial to their English language development?
- What are the benefits of each medium?

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3.2 Participants

The participants in this study were twenty Japanese university language students, aged between nineteen and twenty-two years of age. The participants were of mixed ability, ranging from mid-beginner to lower-intermediate level. Participants were highly motivated individuals who participated in a voluntary capacity.

3.3 SCMC Tools

The software used for this comparison study was Skype. Skype is a software application, which allows users to chat over the web via text, voice or live video. It was used as a medium in this research project for its versatility, as it allowed participants to use the same technology for both aspects of the comparison, as well as for its ease of use and the participants', as well as the teachers', familiarity with it. Participants were required to create Skype accounts (for those who did not already have them) and link their accounts with that of their partner's. For the text-chat aspect of the study no extra equipment was utilized but for the voice part of the project headsets were used. For the purposes of this project, video was not used when doing the Skype voice activities as it was deemed to be too similar to face-to-face interaction.

3.4 Procedure

The twenty participants were randomly put into pairs and over eight sessions of one hour, they completed a series of task-based activities through text-chat, and voice. The students worked with the same partner for the duration of the study. To familiarize the students with the technology and the tasks the first session allowed for demonstration, instruction, and practice time. For subsequent sessions, teacher instruction was kept to a minimum as tasks followed a set pattern and required similar outcomes. The repetition of similar tasks allowed for greater peer-peer interaction and collaboration, with greater focus on English production.

3.5 Reasoning-Gap Tasks

Altogether six tasks were designed based on the following features: Negotiating meaning, communication about form and content and producing a final product. Reasoning-Gap tasks were used as they are effective in promoting negotiation as well

as providing intrinsic support to learning outcomes. Reasoning-gap tasks are described by Prabhu (1987) as tasks which require learners to “derive some new information using practical reasoning” (as cited in Ismail and Samad, p.90) to formulate their own meanings.

For this project the end product for each task was a collaboratively written story. Participants were each given a set of pictures. Participants A and B from each pair had the same pictures aside from one. The first part of the task was to identify the disparate pictures. The second part of the task was to describe these pictures and order the pictures to create a story. The third part of the task involved writing the story. A requisite of the task was that participants tried to write down exactly the same sentences (including the same spelling) on their corresponding worksheets. Participants completed three tasks through text-chat and three through voice. The use of dictionaries was permitted for all tasks.

Data Collection and Results (Research Question 1)

4.1 Data Collection

To determine which medium (voice or text-chat) was the most effective for making students reflect on language form, the frequency of LREs (Language Related Episodes) was used as a criterion for judgment. According to Swain and Lapkin, (1998) LREs describe: “any part of a dialog where the students talk about the language they are producing, question their language use, or correct themselves or others” (as cited in Jackson, 2001 p.298). Under this precept, the dialogues participants engaged in while completing the tasks, were recorded and later analyzed for LREs.

For the text-chat component of the project, participants copied their communication transcripts to word documents for analysis. The voice component of the project was recorded on the software ‘Audacity’ and later transcribed.

4.2 Initial Results (Research Question 1)

The total number of LREs for text-chat and voice were counted and the frequency percentage of LREs for each medium was then calculated. According to the research

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the total number of LREs was 31% for text-chat and 69% for voice. From this data, it was initially inferred that voice afforded participants considerably more opportunities to reflect upon their language use, as compared to text-chat.

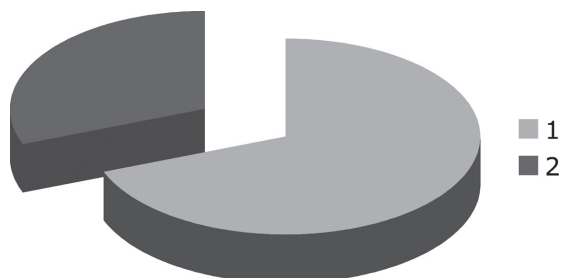


Figure 1. (Total Number of LREs— 31% Text-Chat / 69% Voice)

These initial results on first examination were surprising however, as they ran contrary to earlier expectations, based on previous researchers' findings. Prior research advocated that text-chat's slower rate of communication and visual evidence of utterances on the screen, should have elicited more LREs than voice. "Learners can compose their utterances at their own pace and they can view each other's language as they produce it. The visual display of their utterances provides opportunities for conscious attention to and reflection on their language use as well as prompts for further interaction" (Kern et al., 2004, as cited in Zeng and Takatsuka, 2009, p.436). It was decided therefore, to conduct a more in-depth analysis to ascertain the precise nature of the LREs occurring in each medium.

4.3 LRE Coding—Form and Lexis

To facilitate a more comprehensive investigation, the LREs were identified and coded according to two generalized categories as proposed by Swain (2001b):

Lexis Based LREs: where learners search for lexical items and/or choose from among competing lexical items.

Example:

Student 1: vacuum > vacuum cleaning?

Student 2: maybe... vacuum cleaner

Student 1: lol yes!

Form Based LREs: where learners focus on aspects of English morphology, syntax or discourse.

Example:

Student 1: run? ran?

Student 1: which is the past tense?

Student 1: sorry i forgot...

Student 2: past tense is ran...?

4.4 Comprehensive LRE Coding

The transcripts were then coded again based on Zeng and Takatsuka's (2009) more cogent LRE classifications, to more explicitly understand the characteristics of the LREs inherent to each medium.

Below are the classifications plus examples from participants' transcripts:

<u>Classification</u>	<u>Example</u>
Inviting/Stating an opinion	Student 1: In my opinion, he want to go down to ground but he cannot do, so he hit the balloon.
Self/partner correction	Student 1: oh, so the man shot the balloons by hisself? Student 2: yeah, he shot the ballons by himself.
Seeking confirmation/ Checking information	Student 1: A woman brought a vacuum-cleaner in a panic. Student 1: how do you think?
Suggesting an improvement/ alternative	Student 1: cleaning machine is. . ."a vacuum-cleaner" in English.
Requesting assistance/ clarification/Giving an explanation	Student 1: Sorry, I don't know "get stuck" means. In this case that means the food stay in one place??
Code Switching	Student 1: hahaha^^because that day was Osyogatu! Student 2: an old man ate moti because that day was a new year.
Expressing disagreement/doubt	Student 1: But soon, he found it was scaring, so he was shoting ballons to get down. Student 1: correct sentence, isn't it? Student 2: I don't think so, -,~, he shot balloons to get down.

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4.5 Form and Lexis LRE Results

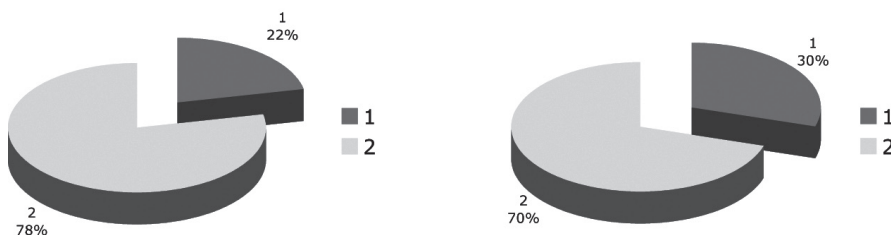


Figure 2. (Text-Chat: 22% Lexis / 78% Form) Figure 3. (Voice: 30% Lexis / 70% Form)

The percentage breakdown of the number of form and lexis based LREs was then calculated for each medium. The breakdown showed that of the overall total number of LREs produced, a larger percentage of those for voice were lexis based (30% as compared to 22%) as compared with text-chat, which on the contrary, produced more form based LREs (78% compared to 70%).

It was determined that the reason for this disparity, may in fact be directly linked to the slowed down communication style afforded by text-chat. This slower rate of communication was beneficial in allowing participants time to check words in their dictionaries, thus producing fewer lexis-based queries. This was confirmed by the participants' own comments relating to use of the text-chat media: *"I felt I could communicate more as I had time to look things up in my dictionary. I think it also helped me to learn new words."* The visual record of utterances pertaining to text-chat communication, also allowed for ease in the consideration of language form.

4.6 Comprehensive LRE Breakdown Results

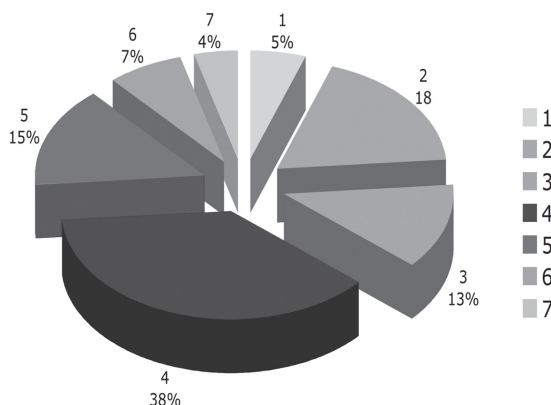


Figure 4. (Detailed Voice LRE Breakdown)

	<u>Classification</u>
1	Inviting/Stating an opinion
2	Self/partner correction
3	Seeking confirmation/Checking information
4	Suggesting an improvement/alternative
5	Requesting assistance/clarification/Giving an explanation
6	Code Switching
7	Expressing disagreement/doubt

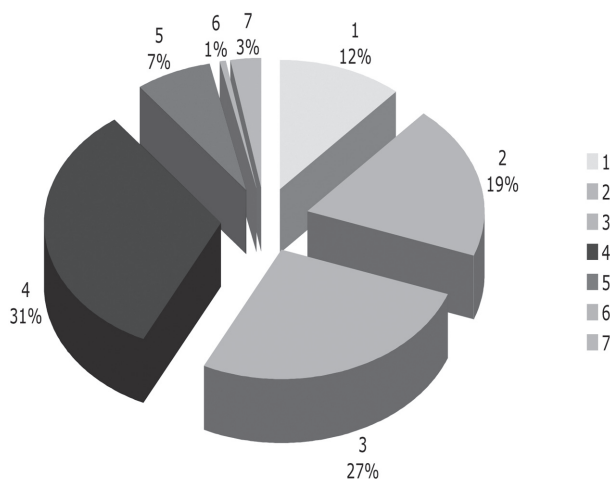


Figure 5 (Detailed Text-Chat LRE Breakdown)

The transcripts of the participants were coded again to further elucidate the frequency and nature of the LREs occurring in each media type. The more in-depth breakdown of LREs revealed a greater range of differences between the media. For the category ‘Inviting/Stating an opinion’, text-chat had more than double the percentage of voice LREs, with the results being 12% and 5% respectively. This was indicative of the relative anonymity of text-chat which, according to Kern, (Kern, 1995; Warschauer, 1997) encourages equal participation and reduces anxiety. Sentiments which were echoed by the project participants: *“I didn’t feel so much pressure so it was fun to communicate this way.”*

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For the category ‘Seeking confirmation/Checking information’, text-chat, in comparison with voice, once again had a higher percentage with 27% to 13% of the total LREs. Participants were more aware of, and gave more thought to, the language they were producing, which precipitated the desire to confirm and check what was written. A participant comment on text-chat: *“As I put my words into sentences I found I paid more attention to grammar.”*

For the category ‘Requesting Assistance/clarification/Giving an explanation’, the higher percentage of LREs fell to voice, which accounted for 15% of its overall total as compared with 7% for text-chat. From these results it was inferred that, of the two, voice appeared to be the more complex media for students to utilize. Having to process more information in a shorter amount of time, without the visual benefit of having a record of their typed utterances (as afforded in text-chat), both listening skills and memory were needed to complete the tasks. By this rationale, it was concluded that using voice, in correlation with the complexity of the project tasks, could account for there being a greater need to request clarification and give explanation. Skehan (1998) asserts that “human beings have a limited capacity to process information, and as a result, task content and language accuracy are in competition with each other for a learners’ attention. Thus more complex tasks will demand more attention on content, resulting in less attention given to language use” (as cited in Ismail and Samad, 2010, p.89). The requests on a whole tended to be more associated with pronunciation, lexical comprehension and meaning, which explains the higher percentage of lexical-based LREs in voice and supports the notion that participants had less time to check dictionaries and so were more inclined to ask for assistance under these conditions. A participant comment in regard to voice: *“I couldn’t understand what my partner was saying at times, so I lost the plot.”*

For the ‘Code-switching’ category, voice had a higher percentage of LREs with 7% as compared with only 1% for text-chat. An explanation for this may lie in the ease and immediacy of changing from one language to another when speaking. The deliberate nature of text-chat meant participants took the time to search for meanings and adhering to English appeared more manageable. A participant comment regarding voice seems to support this notion: *“I found it easy to switch to Japanese to explain*

difficult things.”

4.7 Results Analysis

When the data is explored more thoroughly, although the number of LREs is greater for voice it appears that certain types of LREs were pre-dominant in each media. Participants engaged in a higher frequency of ‘Lexis’, ‘Code-switching’, ‘Requesting assistance/clarification and Giving an explanation’ LREs, particularly in reference to meaning with pronunciation playing an important role, in voice exchanges. Participants were paying attention to language but with an emphasis on content and meaning as opposed to form. A participant comment about voice: *“I ended up not really thinking about grammar so much, so I gave a lot of one word answers.”*

Whereas in text-chat, participants’ attention appeared to focus more on the language production and form, as the higher results for ‘Seeking confirmation/Checking information’ and ‘Inviting/Stating an opinion’, suggest. These results were echoed in the results of Jepson (2005) who said, “This study suggests that although text chat is the more widely available and most studied form of chat, voice chat offers an environment in which learners are more apt to negotiate for meaning. Voice chats in this study generated a number of repair moves, specifically negotiation of meaning-type of repair moves, which was significantly higher than the number in text chat” (p.92).

It was also noted that LREs in text-chat took up a much larger portion of participants’ time. It is a possibility that a greater amount of time spent on individual LREs could result in higher uptake of the language point under discussion but this goes beyond the scope of the current study, although this may be an avenue for further research.

Data Collection and Results (Research Question 2)

5.1 Data Collection

The second research question was concerned with which medium students felt was most beneficial to their English language development. After completion of the eight

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sessions participants were required to fill out questionnaires as to their perceptions of the benefits and their feelings about the use of SCMC in English language study in an endeavor to answer this question.

The questionnaire elicited participants' perspectives on the perceived benefit to SLA of each media (on a 5 point rating scale), the perceived ease of task completion in each media and participant preferences for the use of the media. The questions and results are shown below. Participants were also asked to comment from their own experiences on the pros and cons of each media.

	<u>Questions</u>	<u>Rating</u>
1	Rate how easily you understood what your partner was saying on Text-Chat/Skype Voice.	1 Very difficult – 5 Very easy
2	Rate how connected (close) you felt to your partner while using Text-Chat/Skype Voice.	1 Not close at all – 5 Very close
3	Rate how comfortable you were using Text-Chat/Skype Voice to speak in English.	1 Uncomfortable – 5 Comfortable
4	Rate how similar you felt Text-Chat/Skype Voice was compared to face-to-face conversation.	1 Not similar – 5 Very similar
5	Rate how easy you felt it was to say what you wanted to say on Text-Chat/Skype Voice.	1 Very difficult – 5 Very easy
6	Rate how easy it was to respond quickly on Text-Chat/Skype Voice.	1 Very difficult – 5 Very easy
7	Rate how easy you felt it was to start communicating on Text-Chat/Skype Voice.	1 Very difficult – 5 Very easy
8	Rate how much you noticed grammatical mistakes in your own or your partner's sentences?	1 Not at all – 5 A lot
9	Rate your partner's response time in Text-Chat/Skype Voice as opposed to face-to-face conversations.	1 Very slow – 5 Very Fast
10	Rate how much you thought about English grammar while using Text-Chat/Skype Voice.	1 Not at all – 5 All the time
11	Rate how much you worried about making grammatical mistakes on Text-Chat/Skype Voice while you were communicating.	1 Not at all – 5 All the time

	<u>Questions</u>	<u>Rating</u>
12	Rate how much time you had to think about what you wanted to say when using Text-Chat/Skype Voice?	1 No time – 5 Lots of time
13	Rate how much you felt using Text-Chat/Skype Voice was beneficial to do language learning activities.	1 Not beneficial – 5 Very beneficial
14	Rate how much you would be interested in using these forms of communication in a classroom situation.	1 Not interested – 5 Very interested
15	Rate the media in order of preference Text-Chat/Skype Voice	1 Favorite – 2 Second favorite

Figure 6. (Questionnaire)

5.2 Questionnaire Results (Research Question 2)

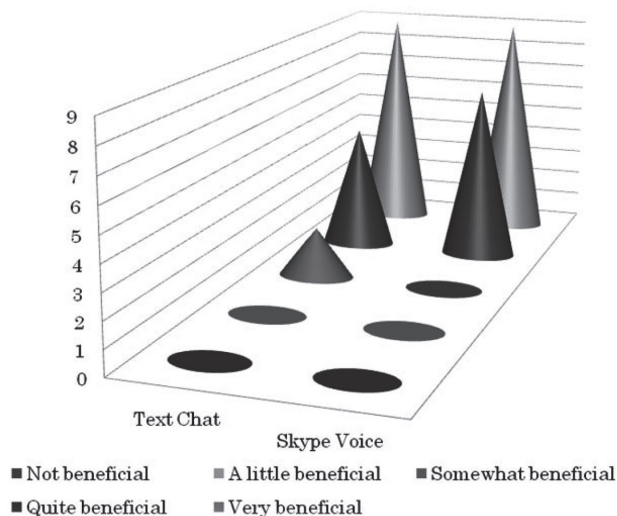


Figure 7. (Question – No.13)

In response to the question: Rate how much you felt using text-chat/voice was beneficial to do language learning activities, participants felt that both text-chat and voice were beneficial to language development. As shown in Figure 7. voice was rated

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as being slightly more beneficial than text-chat. This could be explained by the closeness of voice to face-to-face communication with its emphasis on listening, speaking, pronunciation and fluency skills, which the participants value highly. A participant comment regarding voice: *“It was good because I had to be careful of my pronunciation.”*

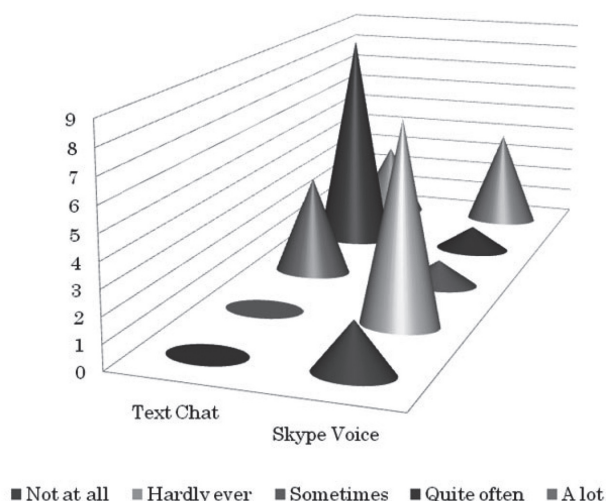


Figure 8. (Question – No.8)

For the question: Rate how much you noticed grammatical mistakes in your own and your partner’s sentences, participants reported noticing much more when using text-chat as compared to voice (as shown in Figure 8). Taken from a pragmatic view, the fact that utterances are recorded on the screen and the aggregate of time for reflection, questioning and checking, made mistakes easier to see in text-chat. This is relevant to being beneficial, because although participants may not have been consciously aware of the fact; the act of noticing gaps in language knowledge, as Schmit (1990) proposed, may be the catalyst for SLA. A participant comment about text-chat: *“I had many opportunities to reflect on the conversation with my partner as our previous utterances remained on the screen.”*

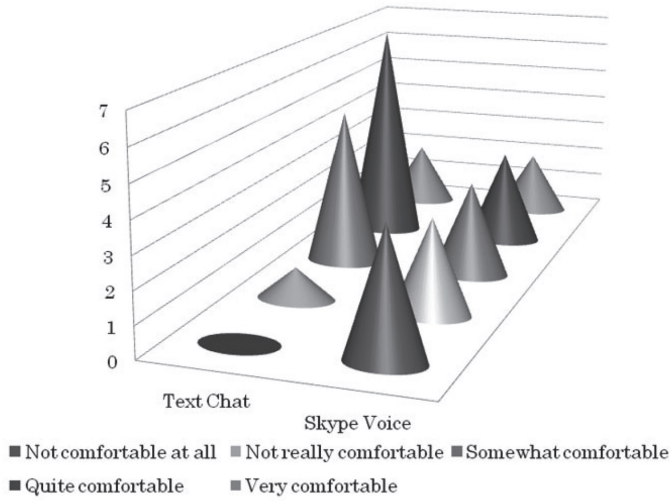


Figure 9. (Question – No.3)

When asked to: Rate how comfortable you were using text-chat/voice to communicate in English, participants on the whole, felt more comfortable using text-chat with many appreciating the slower pace of communication (as shown in Figure 9). A participant comment on text-chat: *“I liked having more time to think about what I wanted to say before I responded.”*

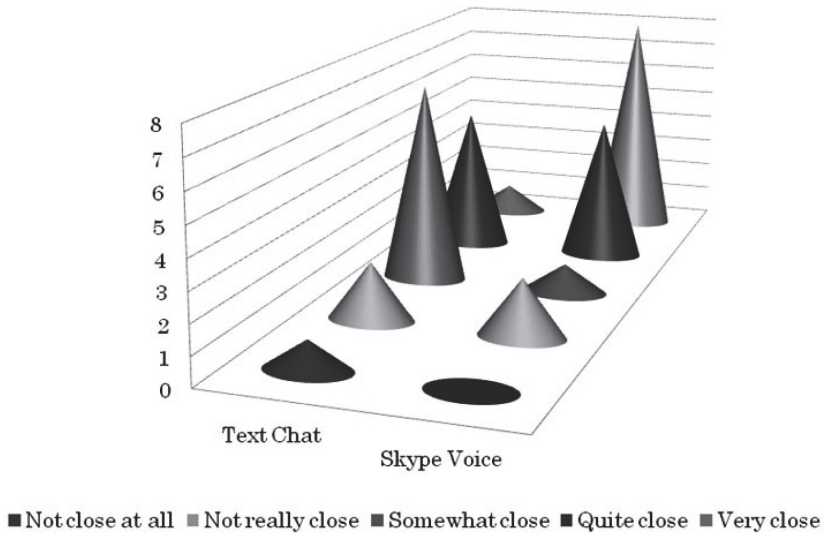


Figure 10. (Question – No.2)

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For the question: Rate how connected (close) you felt to your partner while using text-chat/skype voice, participants felt that voice was more conducive to connectedness (as shown in Figure 10). Lomicka and Lord “suggested that social presence enhances the interaction between learners, which, in turn affects learning performance” (as cited in Yamada, 2009, p.822). A participant comment about voice: *It was fun. I couldn't use gestures so I had to try extra hard to communicate through words*”

Data Collection and Results (Research Question 3)

6.1 Data Collection

Research question 3 dealt with the benefits to SLA of each medium. The benefits of the respective mediums were determined through a combination of observation of participants and final outcomes, as well as the detailed LRE breakdown and participant questionnaires.

6.2 Results

The main benefits of each medium can be seen in the table below:

<u>Text-chat</u>	<u>Voice</u>
The promotion of consciousness of grammatical and lexical accuracy.	High dependence on listening skills particularly as gestures and facial expressions cannot be used to convey meaning.
Participants are able to study both form and communication skills within the same task.	Accurate production and pronunciation of English is required.
The ability to check utterances before sending them, led to enhanced language confidence and created a low stress environment.	A greater feeling of social presence.
The sense of anonymity afforded participants distance from their partners which enhanced their abilities to correct partner mistakes, give opinions more willingly and so foster an environment of equal participation.	Clarification requests pushed students to produce modified output.

<u>Text-chat</u>	<u>Voice</u>
Participants reverted to their native language less, taking the time to check meanings and words more.	The rapid speed of communication was motivating.
The collaborative nature of the activity led to learner output (in terms of quantity of written work) being sizeable.	Similar to face-to-face communication (use of fillers).
Participants stayed on-task due to positive pressure of a partner waiting for responses or input.	Participants stayed on-task due to positive pressure of a partner waiting for responses or input.

Pedagogical Implications

There are several pedagogical implications to the study. With SCMC becoming more commonly used in daily life there are positive connotations for EFL learners. SCMC can be used to interact with people from all walks of life over the web and also provide language opportunities that are much closer to face-to-face communication that can be realized outside of the classroom.

The results from the comparative study show that use of SCMC within the class should be tailored to specific teaching objectives to maximize student learning opportunities. Specifically, voice was found to be advantageous in promoting listening and pronunciation skills as well as for negotiation of meaning and production of modified output. Text-chat, on the other hand, was more conducive to the study of grammatical and lexical accuracy while also focusing on communication skills.

Through the study of participant LREs the gaps in language knowledge become apparent; particularly of those LREs which remain unresolved. Specific knowledge of these gaps could be used by teachers for inclusion in future lesson plans. This knowledge would allow teachers to tailor classes very precisely to student language levels in keeping with Krashen's *Comprehensible Input* theory (1982, 1998).

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Conclusion

Within the theoretical framework, the study set out to compare the benefits of voice and text-chat to SLA. The results indicate that both text-chat and voice are beneficial to SLA, particularly in correspondence with negotiated learning tasks. Participants were receptive to language study using both SCMC and were able to identify positive benefits to using both media.

It should be acknowledged that the research was conducted under some limitations. The purview of the research was small as only twenty students participated. Also, although participants were privy to a number of LREs in both media, the scope of this research did not allow for testing the retention level of the knowledge gleaned from experiencing the LREs. Further study could be conducted to investigate the likelihood of retention of the knowledge gained and what the optimum conditions for LRE knowledge retention are.

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