# Task-Based Synchronous Computer-Mediated Communication

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**Abstract**

Synchronous Computer-Mediated Communication (SCMC) has the potential to serve as an effective tool for enhancing second language (L2) learning, not only outside the classroom but within it as well. Educators must be cautious however not to view SCMC technology as a method of learning unto itself. It is a medium through which the principles of Second Language Acquisition (SLA) must be applied. As with any new device, if the research is not guided by current theories and principles then it becomes little more than a gimmick for entertainment purposes. The theoretical underpinnings of Task-Based Language Teaching (TBLT), arguably the most universally respected method of L2 instruction to-date, also makes it ideal for realizing the potential SCMC technology has to offer (Gonzalez-Lloret, 2016). Therefore, this paper will focus on the following three categories: Second Language Acquisition, Task-Based Language Teaching, and Synchronous Computer-Mediated Communication. It will first explain what is commonly known about all three categories, then go on to describe what notions are suspected of being true, as well as, highlight what gaps in understanding that remain. After that, it will review some current research projects carried out in the field and finally propose a path for future investigations.

同時コンピューター媒介コミュニケーション（SCMC）は第二言語習得を促進する手段として、授業外だけでなく授業内でも有用となり得る。しかしながら、教育者は SCMC を学習法だと見なさぬよう留意しなければならない。SCMC は第二言語習得理論（SLA）を応用した通信媒体である。いかなる新しい機器を用いても、その研究が認められた理論や原理に則していなければ、楽しみのための仕掛けとしかならない。その理論的背景はタスク中心教授法（TBLT）であり、現在最も普遍的に評価されている第二言語指導法である。また TBLT は SCMC 機器がなすべき可能性を実現するのに妥当な理論となる（Gonzalez-Lloret, 2016）。よっ

て、本論文では以下の分野、第二言語習得理論、タスク中心教授法、同時コンピューター媒介コミュニケーションの３つを重点的に議論する。まず３つの分野全てにおいて一般的に理解されている内容を概観し、続いてどの意見が正しいとされているか、そしてその理解における相違に注目し記述する。さらに、これらの分野で最新の研究計画を検討した後、最後に今後の研究の進むべき方向を提案する。

## Introduction

The utilization of computers in educational settings is common place today. As their functionality advances so too do the ways in which they can be employed. The options seem to be limitless and yet the rapid pace in which technology is being employed often times puts pressure on institutions and educators alike to make use of such tools without really knowing how best to go about it. With regards to computer-assisted language learning (CALL), Chapelle (2000) cautions viewing computer technology as a method of language instruction unto itself. Computers, software, or online programs for that matter, are only as good as the features they can provide learners in the processes and strategies of learning. Any scientific investigations carried out in the field of second language acquisition (SLA) must attempt to find ways to isolate relevant features that can be seen to facilitate learning.

The field of CALL has evolved greatly over the past two decades with a growing interest in network-based language instruction. Originating from asynchronous forms of communication (emailing and blogging), research today focuses more and more on real-time (synchronous) interaction carried out through such mediums as text chat, voice chat, and tele-conferencing. Looking to carve out its own place "within the theoretical foundations of a variety of SLA approaches" (Ziegler, 2016b, p. 556), the interactionist perspective, and more specifically, the task-based language teaching approach (TBLT) has been utilized by many researchers as a framework for investigation in the field. Interest in the field has grown to the extent that research carried out on synchronous computer-mediated communication (SCMC) in correlation with TBLT is now beginning to be referred to as Task-based SCMC or Technology-mediated TBLT.

Although the evidence to support the use of SCMC technology in second language (L2) classrooms has been building, it still remains unclear whether there are actually times when better pedagogical results can be obtained through online modes as opposed to traditional face-to-face (F2F) interaction. To move forward in this field of research, what is needed now is a thorough investigation into the relationship between task design and mode of communication, more specifically, online mediums as opposed to face-to-face (F2F) and how such a relationship can possibly impact positively or negatively on learners and language learning outcomes. Only by shedding more light

on the interrelated features of both tasks and modes, along with learner preferences, will we be able to provide a clearer picture as to when and how online mediums may best be implemented for L2 learning purposes.


## What is known about SLA

Languages are inseparable from the cultures and societies they exist in. Language learning is a social endeavor in which communication is an essential part of acquisition. There are currently two dominant approaches to how Second Language Acquisition (SLA) takes place, the psycholinguistic approach and the socio-cultural approach (Ellis, 2003). Although the two approaches are divided over whether social interaction or individual cognitive functions first give cause for acquisition to take place, both sides agree that language input, language output, and interaction, are essential components of the process (Claros, 2008).

For acquisition to take place learners must first be provided with language input that is only slightly above their current level of proficiency. This is what Krashen (1985) labeled as Comprehensible Input or i+1. For this, he argues that providing learners with such input optimizes their ability to acquire language naturally, as opposed to consciously. Swain (1985) then took this notion a step further and proposed that providing learners with opportunities to play with the language, to modify and push the complexity of their output, was equally important so they may be able to notice their own linguistic shortcomings and learn something new about the language. For this to happen interaction is essential.

As with first language (L1) acquisition, second language learners do not become proficient overnight and progress in stages of language development. It is during these stages that they test out previously held assumptions, as well as, incorporate new ones to build on what is commonly referred to as the learner's interlanguage. The interlanguage is the standing knowledge of the L2 held within the learner's mind at any one period of time. As Fromkin, Rodman, and Hyams (2007) explain, it is this interlanguage that L2 learners construct along the way that must constantly be molded and reshaped as they strive towards total proficiency. *Summary statement: For SLA to take place, interaction with appropriate levels of input and opportunities for pushed output is necessary.*


## What is known about TBLT

Presently, Task-Based Language Teaching (TBLT) is considered one of the most

prominent L2 teaching approaches, strongly supported by both psycholinguistic and sociolinguistic scholars (Long, 1985; Prabhu, 1987; Nunan, 1989; Lee, 2000; Bygate, Skehan, and Swain, 2001). Emphasizing the importance of both cognitive and social processes, its basic principles are grounded in SLA research from the last 40 years (Long, 2014). It emphasizes that learning is not to be viewed as simple habit formation but as a tool for communicative purposes (Nunan, 2004).

Stemming from Communicative Language Teaching (CLT), the rational behind TBLT is to facilitate interest and interaction and promote "participation in meaningful activities" in the classroom (Willis & Willis, 2007, p. 11).  Willis and Willis identify six principle features for TBLT tasks: 1) they need to engage leaners' interests, 2) they need to relate to real world activities, 3) the primary focus needs to be on meaning, 4) there needs to be an outcome, 5) success is judged in terms of outcome, and 6) completion of the task is a priority.

By having learners engage in meaningful tasks, that learners can identify as having real applications in the outside world, this can produce higher levels of motivation in the classroom and "provide a better context for the activation of learning processes" (Richard and Rodgers, 2004, p. 223). Although TBLT has been around now for a while, its interest continues to grow. This is evident by the number of publications that continue to be published on the topic each year. Not only are researchers presently interested in finding out more about the affect task-design, social interaction, and cognitive functions have on one another but also the role that online communication brings to the table. *Summary statement: TBLT is currently considered the most effective method for L2 teaching.*

## What is known about SCMC

Being first utilized for online learning programs, asynchronous (emailing, blogging) and synchronous (text-chat, voice chat) forms of computer-mediated communication (ACMC and SCMC) have increasingly become commonplace over the past 20 years. Not only has L2 research focused on distance education opportunities but also on classroom applications as well. Some of the purported benefits of CMC in the early stages included: increased learner output (Sullivan & Pratt, 1996), increased learner involvement (Kern, 1995), more in-depth discourse (Chun, 1994), less anxiety (Satar & Özdener, 2008), higher levels of motivation (Warschauer, 1996), and amplified attention to form (Warschauer & Kern, 2000). Although describing how the interface, mouse, headset, voice quality, and possible anonymity were all liable to exert an influence on interactions, Kenning (2010) also noted the preoccupation some researchers in the past

seemed to have had "writing about the benefits and potentials of computer technology, instead of exploring the kinds of tasks that should be used and in what settings" (p. 3).

Although this criticism may be warranted, it is accepted that online interaction does differ from face-to-face interaction. Fundamentals such as *turn-taking* and *face-to-face* do not work the same in online settings, nor is it as easy to distinguish between language that is spoken or written (Barton & Lee, 2013). Therefore, it can be argued that SCMC technology offers a new and unique platform for SLA research that needs to be pursued in the digital age. *Summary statement: SCMC has proven to differ from face-to-face interaction*.

## What we think we know about SLA

Being able to pinpoint the exact moment when a learner successfully integrates new linguistic knowledge into his or her interlanguage is no easy task. This is because constructing a definition of what it is to truly know a word or grammatical item is equally perplexing. What has been theorized however is that SLA can be achieved by facilitating uptake through incidents of noticing and pushing learners to produce more accurate forms (Swain, 1985; Schmidt, 1990; Skehan, 1998). Loewen (2004) argues that uptake can arise in response to "the provision of feedback…within the context of meaning-focused language activities" (p. 153). In accordance with Schmidt's (1990) Noticing Hypothesis, and Swain's (1985) Output Hypothesis, even though it cannot be guaranteed that acquisition will take place due to the presence of these incidents, it can be argued that they do act as an all important first stepping stone towards acquisition when and if the timing is right.

In Craik and Lockhart's (1972) *depth of processing theory*, as discussed in Laufer and Hulstijn (2001), the chances of new information being stored in long-term memory does not so much depend on the amount of time it has been stored in short-term (working) memory but rather the depth in which it is initially processed. This highlights the importance of task design and its ability to create opportunities for 'deep processing'. *Summary statement: Noticing and uptake are seen as stepping stones towards SLA*.

## What we think we know about TBLT

Although TBLT's primary focus is on meaning, it is also necessary to incorporate salient linguistic features into course work that teachers feel will benefit their learners. The fact remains however that humans only have a limited capacity to process so much information at any one time, thus the ability to: 1) attend to meaning and 2) produce

accurate forms, are constantly in a struggle with each other to command a learner's attention (Skehan, 1998). Though the rules of complexity remain unclear, transparency in the way the relationship between meaning and form is presented in a task, as well as, the techniques employed by a teacher to promote noticeability may impact learner outcomes (Samuda, 2001).

With regards to language production, Ellis (2003) contends that there are likely to be trade-offs as, "L2 learners struggle to conceptualize, formulate, and articulate messages" (p. 109). Depending on task design and production expectations, he argues that one learner's primarily concern may end up being to just get their message across, resulting in them choosing to ignore salient features from the text, along with grammatical accuracy. Equally, a learner whose primary focus is on accuracy may in turn lose the opportunity to conceptualize the 'big picture' of the task, missing out on the true objective of the activity all together. Regardless of the mode of communication in which a task is to be carried out, it is first imperative that task design and outcomes are carefully weighed up to optimize opportunities for uptake to occur. *Summary statement: Task complexity and production expectations seem to impact both positively and negatively on SLA.*

## What we think we know about SCMC

Compared to face-to-face interactions, SCMC, such as text-chat and voice-chat, offers a 'no-frills' form of communication. Lacking many contextual clues, it forces messages to be conveyed through a more limited number of channels. In a meta analysis of research carried out between 1990 to 2012, Lin, Huang, and Liou (2013), found an overall positive effect for text-based SCMC on L2 learning that could in some circumstances make, "a larger difference on SLA than other means of communication" (p. 123).

Ko (2012) also investigated the impact of SCMC environments on language learners' perceptions of social presence in the classroom. In this study he found that the majority of participants felt teleconferencing was a more comfortable medium of communication than face-to-face interaction. Looking at the effects of text-chat and voice-chat on speaking proficiency and anxiety, Satar & Özdener (2008) had similar findings that showed both SCMC groups scoring significantly higher in post speaking tests compared to the control group, with anxiety levels dropping the most for text-chat participants. These are but a few examples of research literature that moves to bolster the argument for the benefits of utilizing SCMC in L2 teaching settings. *Summary statement: SCMC may have a positive effect on SLA.*

## What remains unknown about SLA

Although the conceivable benefits for L2 learning online are apparent, it remains to be seen whether online communication can at times convincingly offer better pedagogical results than traditional face-to-face (F2F) settings. Where SLA is concerned, perhaps research now has to go beyond the focus on linguistic and communicative competence, to include such things as digital literacies, multi-literacies, intercultural communicative competence (Chun, 2016), and learner preferences. The simple fact is online learning may not be suited for all learners. This being said however, identifying particular characteristics that contribute to either successful or unsuccessful outcomes in all areas of study will no doubt greatly benefit students in the 21st century (Kauffman, 2015). *Summary statement: It is still unclear whether L2 learning online can produce the same or better results than classroom settings.*

## What remains unknown about TBLT

A growing number of scholars now recognize the enormous potential for TBLT to act as a guiding framework to help organize technological designs for language learning (Gonzalez-Lloret, 2016). Despite numerous studies having been done on the impact of tasks on SCMC contexts, particularly text-chat, surprisingly little however has been done to compare it with F2F performance. When considering the importance of the relationship between task-effect and mode of communication, it is remarkable that a systematical investigation still remains to be done (Kim, 2017). This can now be seen as the next step needed to push ahead with task-based SCMC research. *Summary statement: The effect task design may have on L2 learning in online settings as opposed to face-to-face remains unclear.*

## What remains unknown about SCMC

Different modes of communication have the power to affect learners in different ways. In her study of text-chat and spoken discourse, Sauro (2012) found that under the same conditions, some learners can potentially produce more complex language on text-chat while others can do so in spoken discourse. Why this is exactly however still remains unclear. As Levy (2006) insists, "What is really needed now is a program of research which seeks to identify the precise conditions under which online instruction is effective" (p. 3). Only by carrying out a mix of in-depth qualitative and quantitative research can we hope to isolate the exact conditions through which different modes

of communication can promote better learner outcomes. *Summary statement: It is not known in what circumstances SCMC (specifically text-chat and voice-chat) may prove better than F2F communication for L2 learning in the classroom.*

## Investigations in the field of Task-Based SCMC

Recent studies in the field of technology-mediated TBLT have continued to bring to light interesting findings relating to issues such as: task complexity, task sequencing, dyad dynamics, and learner preferences. Looking at the interactional features of repair negotiation between native speakers and non-native speakers (NS-NNS) on voice chat, Kitajima (2013) investigated whether a convergent type task (information gap) would be more beneficial for learning than an unstructured information exchange task (personal information chat). What he found was the contextual clues obtained in the information gap task allowed NSs to dominate the exchanges and actually led to little or no collaborative actions between the pairs. Personal exchanges however lacked such clues and so NNSs were placed on a more equal footing with their NS counterparts, giving them more opportunities to seek alternative solutions, such as restating their meaning by alternate means. This study highlights the relationship between dyad constructs and task design. Generally speaking, convergent type tasks in TBLT are commonly argued to be the most effective at promoting opportunities for noticing between learners. In this instance of NS-NNS dyad pairings however, the NSs could use the contextual clues found in the task to actually avoid breakdowns in communication, essentially minimalizing the role of the NNS.

Comparing task complexity and sequencing patterns between traditional classroom (F2F) and online settings (text chat), Baralt (2014) investigated how such factors could impact on students' learning opportunities and development of the Spanish past subjective. Using a repeated measures design, Baralt had students carry out a series of tasks, randomly sequenced from simple (S) to complex (C), e.g. C-C-S, S-S-C, C-S-C, S-C-S. The text chat and oral transcripts were then coded for incidents of noticing (LREs) involving the past subjective in Spanish to identify signs of collaborative learning opportunities and to see how different levels of task complexity influenced this. Both pre and post production tasks as well as statistical analysis (ANOVAS) were used to compare L2 development. Surprising, after the analysis, zero LREs were identified in the text chat transcripts while F2F pairs were seen to have produced varying numbers depending on the sequence of tasks. Learners in the text chat groups also failed to produce any target structures in the post production tests. In this instance it can be seen that the modality significantly influenced the learners' willingness to

discuss the use of the target language (Ziegler, 2016). Baralt (2014) postulates that the online environment in this case may have led the NNS-NNS pairs to view the task as being less formal and more communicative in nature. Thus, being less inhibited by regular classroom norms, issues of form were not thought to be relevant.

Conversely though, Kim (2017), in a comparative study of text chat and F2F learner interactions, found that groups on text chat performed better when engaged in task-based learning activities. Employing three task types in the study: spot-the-difference, decision-making, and story-sequencing, Kim found statistical evidence of higher accuracy rates in the use of articles across the board for the text chat pairs. It was hypothesized that this may have been because paralinguistic cues that are usually afforded in F2F communication to maintain clear reference were lacking in the text chat setting. Without such cues, learners appeared to be more careful in their syntactic choices on text chat in order to get their point across the first time.

Sauro (2012) also carried out a comparative study of L2 performance of learner pairs on text chat or F2F. In this investigation however, the aim was to identify which groups could more successfully complete a series of narrative tasks. In Sauro's results, no significant differences were found either in "the lexical or syntactic complexity of the narratives generated in the two modalities and instead found evidence that different types of learners…were able to generate more complex language predominantly in one context over the other" (p. 335). In this instance, the data did not shed any light to support the benefits of having learners carry out the tasks one way or the other, but instead highlighted the importance of recognizing individual learner preferences and features in technology-based TBLT research. As Sauro (2012) emphasized, factors such as a learner's ESL (English as a Second Language) or EFL (English as a Foreign Language) background, the writing system of their native tongue, or previous experience using computers, can all influence their perception of online communication and impact on the cognitive demands needed to carry out tasks in this way.

Although a significant amount of progress has been made in unifying the fields of TBLT and CALL for mutual gain, many questions still remain about how best to integrate SCMC technology and language tasks into a mutually informative whole (Gonzalez-Lloret & Ortega, 2014). At this stage of Computer-Assisted Language Learning (CALL), or more specifically Task-Based SCMC research, what is needed now is to obtain a clearer picture of how online modes of communication may be effectively utilized in regular classroom settings. For this to happen, it is necessary that extensive investigations be carried out that can attempt to identify correlating factors between task design, mode of communication, and learner outcomes. As Kim (2017) states, if obtained, such findings can "help teachers to choose an appropriate mode of

communication for designing materials and selecting effective teaching techniques, dependent on the specific educational purpose" (p. 220).

## Future Research Proposal

To move forward, Task-Based SCMC research must take account of the wider variety of task-based learner activities commonly employed in L2 classrooms to attempt to identify circumstances which may or may not support the utilization of online modes of communication. As Lin, Huang, & Liou (2013) propose, "Only through a more transparent characterization of SCMC conditions in future effectiveness studies can we hope to ascertain which features may or may not trigger the processes involved in SLA and truly capitalize on the communication opportunities afforded in different SCMC environments" (p. 134).

For this to be achieved investigations must endeavor to isolate factors that: 1) are seen to improve or impede opportunities for noticing and uptake to occur, or 2) positively or negatively impact on learner performance. These factors will involve drawing connections between task design and complexity, learner attributes, and different modes of communication, more specifically: text chat, voice chat, as opposed to face-to-face. It is proposed then that the next step would be to answer the following research question: Under what circumstances does it appear that voice chat and/or text chat offer a more effective pedagogical approach to SLA?

The aims for such a project will be as follows:

1) To ascertain whether different task types can lead to greater levels of noticing of new lexical or grammatical information on one mode of communication over another.

Along similar lines to Yilmaz's (2011) investigation of incidents of noticing (LREs) in dictagloss and jigsaw type tasks, the first aim of a project of this type should be to identify connections between task types, communication modes, and uptake levels of new lexical and/or grammatical items. To do this, it will first be necessary to identify lexical or grammatical items unfamiliar to the participants in the project that can then be integrated into various task designs. Upon completion of such tasks, participants should then be given post treatment tests to complete so that levels of uptake between individuals and groups can be measured. The purpose of this will be to determine whether the results between each of the groups (text chat, voice chat, F2F) are completely random or whether there happens to be any noticeable differences in group scores between task types carried out on one mode of communication over the

others.

2) To discover the impact learner preferences and characteristics may have on their ability to notice new lexical or grammatical items integrated into tasks carried out on each mode of communication.

Motivated by the findings of Sauro (2012), the next aim of such a project should be to attempt to identify factors relating to individual learners that may impact on their ability and/or motivation to carry out tasks online. For this, participants should be given an open-ended questionnaire at the start of the project to ascertain their experience and confidence in using computers in general, as well as to gage their attitudes towards using SCMC technology to carry out learning tasks in class. At the completion of the project another questionnaire and selected interviews should also then be carried out to see whether any additional insight may be gained. The results of the post tests could then be cross checked with each learner's questionnaire responses to see if any correlations can be made between their preferences, experience, confidence, and/or the mode of communication through which they complete each of the tasks.

3) To ascertain whether there is a relationship between task complexity, mode of communication, and post test results.

In line with Baralt (2014) and Kim's (2017) investigations of task complexity and L2 performance, the final aim of such a project should be to seek to identify the impact task design and mode of communication may have on opportunities to notice new lexical and grammatical items. For this, task types such as: spot-the-difference, decision-making, and story-sequencing, can each be employed multiple times as varying levels of complexity. Each level of complexity should be rated through the difficulty of the content provided, the time given for completion, and the goal expectations of each task. The post test results could then be cross checked with the mode of communication participants carried them out on, along with each task's level of complexity to determine if any correlations can be made.

## Conclusion

As we move forward into the 21st century, the focus on technology in SLA will be sure to intensify. The internet offers new and exciting opportunities for various fields of education as it plays an increasingly powerful role in the world as a whole. To

some extent, this has already resulted in its extensive integration into many educational programs at the tertiary level. The shift from F2F to online learning though offers a substantial change and so the need to investigate how this can impact on teaching practices and learner experiences is evident (Murphy, 2015). SCMC is one such area of interest for which we are only now starting to realize how complex an issue it is. To justify the use of SCMC for task-based instruction in classroom settings there needs to be a greater understanding about the contexts and learner dispositions for which such technology can be utilized effectively. Only then can we hope to see it reach its full potential.

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