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Chatting with your Peers: The Role of Text-based Synchronous Computer-

Mediated Communication on L2 Oral Development, Language Learning Motivation,

and Anxiety

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List of Acronyms

L2 = Second language

SCMC = Synchronous computer-mediated communication[1]

EFL = English foreign language

FLU = Functional language use

F2F = Face-to-face[2]

DUB = Dynamic usage-based

CALL = Computer-assisted language learning

CMC = Computer-mediated communication

ZPD = Zone of proximal development

CEFR = Common European framework of reference for languages

ACMC = Asynchronous computer-mediated communication

NS = Native speaker

NNS = Nonnative speaker

CAF = Complexity, accuracy, fluency

AS-unit = Analysis of speech unit

ESs = Effect sizes

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[1] In this study, the terms SCMC and chatting are used interchangeably.

[2] In this study, the terms F2F communication and oral communication are used interchangeably.

Abstract

This classroom-based study explored whether synchronous computer-mediated practice through a series of interactive narrative tasks can influence second language (L2) oral development by transferring skills across modalities. It also investigated the relationship between learners' affective variables and synchronous computer-mediated communication (SCMC) task perception. The participants consisted of 15 low-intermediate adolescent refugee learners of English, who were enrolled in an English foreign language (EFL) class at a vocational training center in the Netherlands.

In this study, a within-subject design was used. To improve ecological validity, the oral and chat data collection was completed during the students' regular English classes. After the administration of the posttest, the participants filled out a language motivation and anxiety questionnaire (Kormos et al., 2011) containing items on language learning anxiety, and motivation. Further questions were also addressed to the learners and the English classroom teacher in order to evaluate deeper their perceptions regarding the use of SCMC in the FL classroom.

The participants' chat logs and speech samples were coded manually for general accuracy, task-specific accuracy, fluency, and functional language use (FLU) measures. Descriptive statistics and multiple comparisons of means were performed for the different linguistic variables for both SCMC and face-to-face (F2F) pretests and posttests. Correlation matrix analyses based on ranks were performed to investigate how the constructs of anxiety, motivation, and task perception were related to each other.

The results showed that this task-based SCMC instructional treatment had a statistically significant, and strong effect on most of the linguistic measures used to gauge chat and oral performance. The similar gains in chat and oral interaction further supported the potential transferability of SCMC learning outcomes to F2F communication. The findings

also revealed that on average the participants hold positive attitudes towards the use of SCMC in the classroom. Overall, this study highlights the benefits and challenges of text-chat interaction as a learning environment for L2 development and discusses the implications for further research and FL pedagogy.

1. Introduction

Dynamic usage-based (DUB) perspectives have argued in favor of a different approach to language development. A usage-based perspective on language views language as a dynamic system and holds that the primary shaper and the foundation of language learning is the actual language use (Tomasello, 2000). One of the ways of using an L2 is through employing digital tools. Computer-assisted language learning (CALL) tools and software have significantly increased in popularity in the L2 classroom in recent years.

Research in this field has indicated that communicating via computer-mediated communication (CMC) can indeed improve L2 learning (Sauro, 2011; Wei-Chen Lin et al., 2013; Ziegler, 2016). From a teaching perspective, digital communication also offers unique benefits: CMC-based peer interactive tasks can easily be performed in classes consisting of many students, it can foster participation among more introverted learners, and it allows the teacher the means to monitor multiple interactions at the same time (Chapelle, 2009). Studies have shown that computer-mediated tasks may also aid the development of L2 speaking skills (e.g., Payne & Whitney, 2002; Blake, 2009; Razagifard, 2013) and may have a positive influence on learners' affective factors (e.g., Darhower, 2002; Michel, 2018).

To delve into this further, a sociocultural approach to language learning argues that computer-mediated applications as social settings offer ample opportunities for learners to work in their Zone of proximal development (ZPD) and produce more accurate L2 sentences (Blake, 2017). From an interactionist perspective, written SCMC[3] or chatting has been argued to create opportunities for noticing, focus on form, repair, uptake, and pushed output. From a cognitive perspective, chatting has been found to facilitate more form-focused linguistic modification (i.e., improved accuracy and complexity of production) during an interaction, as learners have more time to comprehend and respond to what is typed (Blake 2000; Pelletieri

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[3] I call it SCMC as this is this established term, even though I am well aware that nowadays a lot of it happens on mobile phones.

2000; Shekary & Tahririan, 2006; Lai & Zhao, 2006; Smith, 2010; Nik et al. 2012; Michel, 2018).

Regarding L2 speaking skills, research findings (e.g., Abrams, 2003; Satar & Özdener, 2008; Razagifard, 2013) have shown that practicing via chat has the potential to boost L2 oral development. Payne and Whitney (2002), based on Levelt's model for language processing, suggested that this modality partially taps into the same cognitive mechanisms underlying spontaneous conversational speech. Blake (2000) also noted that in an SCMC environment, the processing demands and the time pressure upon learners are reduced while the tasks and interactions remain the same as in the F2F conversational communication (Blake, 2000). Thus, as such, SCMC may be an effective teaching tool for improving L2 learners' oral communicative competence (Payne & Whitney, 2002). However, further research is needed to determine under which instructional conditions SCMC can indeed improve the L2 oral proficiency of learners (Blake, 2009).

As far as the affective variables are concerned, González-Lloret and Ortega (2014) have shown that computer-mediated tasks, in general, have the potential to increase the motivation, creativity, and task engagement of language learners as well as to lower language output anxiety and thus boost performance. However, it is not clear whether the levels of language output anxiety are significantly lower during SCMC than during F2F communication. Nor is it clear how learners perceive peer interaction via SCMC as a teaching medium in the L2 classroom (Gurzynski-Weiss & Baralt, 2014). To sum up, we do not know yet how language learning motivation and anxiety relate to students' perceptions about learning in a digital environment (Ziegler, 2016; Baralt & Gurzynski-Weiss, 2011; Michel, 2018).

Therefore, to fill a current research gap the present study aims to a) investigate whether oral production improves within a particular SCMC instructional treatment, and b) explore how participants experience the use of SCMC in their language classroom.

The following research questions were formulated:

1. How does chat interactive practice affect L2 oral performance?
2. What is the relationship between the participants' language motivation, anxiety, and SCMC task perception?

In other words, this classroom-based study explored whether SCMC practice through a series of interactive narrative tasks can influence L2 oral development and performance by transferring skills across modalities and by decreasing the effect of anxiety-provoking factors. The language performance of 15 adolescent refugee learners of English as L2, estimated by their teacher at the A1+ level of Common European framework of reference for languages (CEFR), was tested and compared in both SCMC and F2F tasks. Their language motivation and anxiety, as well as their perceptions about SCMC in the classroom, were also assessed and analyzed. Both quantitative and qualitative data collection methods were used. Quantitative instruments consisted of several close-ended questionnaires, while qualitative instruments included audio recordings, WhatsApp chat logs, and follow-up interviews with predetermined open-ended questions addressed to the learners and the teacher.

This study project was envisioned as an answer to a real-life problem. Discussions with the English language teacher of the participants indicated that the students had difficulties with mastering speaking skills. The underlying reasons hindering the development of communicative competence might be many, including inadequate time for practicing speaking skills within the limited class time, students' difficulties to adapt in an active and self-regulating role in learning, as well as their atypical learning biography (i.e., refugee background, disrupted schooling, lower level of English in comparison to typical Dutch

adolescents). This project aimed, therefore, to help overcome this problem by creating a task-based SCMC treatment in which the DUB principles – including implicit attention to forms, scaffolding, and repetition – were incorporated so that all learners could learn through meaningful usage of the language in the classroom at the same time. This study attempted to offer a real value teaching practice, fitting the students' needs and objectives of the class.

The following chapters of this Thesis are organized as follows; The second chapter includes a literature review, which provides an overview of the study's theoretical framework. The third chapter describes the participants, the materials and the objectives of the class, the procedure, and the methods of analysis used throughout the study. The fourth chapter presents both the quantitative and qualitative results of the study, and in the next chapter, these results are summarized, interpreted, and "translated" to the hypotheses formulated; this chapter also addresses the practical implications, as well as limitations of the study and directions for future research. In the last chapter, I conclude this thesis with a summary of the results, and final answers to the research questions.

2. Literature Review

This chapter provides an overview of research areas related to text-based SCMC interaction and L2 oral development, as well as the learners' affective reactions in a CMC context. The first section briefly discusses the usage-based and DST approaches to language development (de Bot et al., 2005; Tomasello, 2000), while the second section reviews the benefits of CMC online interaction on L2 development (e.g., Beauvois, 1997; Blake 2000; Abrams 2001; Gonzalez-Loret & Ortega, 2014; Michel, 2018). The two next sections describe the significance of F2F communication and the theoretical framework for the transferability of text-based SCMC learning effects to oral communication. The fifth section reviews a body of research in SLA that has looked at the potential effects of asynchronous and especially synchronous CMC on L2 oral skills (e.g., Payne & Whitney, 2002; Payne & Ross, 2005;

Razagifard, 2013). The last section deals with research investigating the effects of SCMC on learners' affective variables (e.g., Gonzalez-Loret & Ortega, 2014; Michel, 2018a).

2.1 The Dynamic Nature of L2 Development

According to DUB and emergentist perspectives on language acquisition, language emerges from language input and use (de Bot et al., 2005; Tomasello, 2000). DUB's approach to learning regards language as a dynamic system, consisting of a set of variables that interact continuously (de Bot et al., 2007). All variables within the system are connected, and as a result, a change in one variable impacts another. As was put forward by de Bot et al. (2005), learners have a limited amount of resources at their disposal when learning an L2. Therefore, they cannot focus their full attention on all aspects of language development and, instead, must distribute their attentional resources between the growing subsystems, sometimes resulting in trade-off effects (van Geert, 1994).

Development in an L2 is generally analyzed by tracing how two or more variables develop and interact over time (Verspoor et al., 2008). Many studies, including in the present one, used measures for complexity, accuracy, and fluency (CAF) to further investigate language growth. Norris and Ortega (2009) argued that CAF is a dynamic and interrelated construct, which is perfectly in line with DUB approaches to language learning. In brief, with the DUB principles in mind, this study aimed to investigate the effectiveness of a theoretically informed technology-mediated instructional design on L2 oral development. Due to the word limit, the remainder of this chapter will focus on CMC which is the main background of the present research project and will not delve deeper into the SL acquisition theories.

2.2 CMC and Second Language Learning

Studies on the impact of CMC on FL development are becoming increasingly abundant. Research findings (e.g., Chapelle, 2009; Sauro, 2011; Ziegler, 2016) far have indicated that learners who participate in CMC feel more involved in the learning process, in

the development of ideas, as well as in selecting, and directing the conversation topics (Ortega, 1997; Chapelle, 2009). In this type of interactive environment, there also appears to be a positive effect on learners' attitudes, language anxiety, and motivation (Beauvois, 1997; Gonzalez-Loret & Ortega, 2014). Additionally, learner-to-learners exchanges in CMC seem to be more interactive (Blake, 2000), and the patterns of discourse revealed the use of a wider range of social and language functions (Abrams, 2001) in comparison to oral communication. The amount and quality of linguistic output, as measured by CAF measures, appears to further support the use of CMC tools in foreign language learning in and out of the classroom (e.g., Blake, 2017).

CMC can be seen as a form of semi-speech, a hybrid linguistically situated in between the two ends of a continuum, the formal written register and spontaneous oral speech (Pellettieri, 2000). It differs in a number of respects with face-to-face oral and written modalities, including the medium of interaction, time, and proximity of the audience. Yet, it shares plenty of features with them, such as register, linguistic complexity, and discourse patterns, and as such it may provide a useful and preliminary step toward second language development (Abrams, 2003; Blake, 2009; Gonzalez-Loret & Ortega, 2014).

2.3 Face-to-Face Communication: The Significance of Speaking Skills

F2F communication, which in most languages refers to oral communication, is the milestone of everyday interaction. It has been recognized as one of the main learning goals in most current L2 learning theoretical approaches, but yet most challenging in terms of teaching (Aleksandrzak, 2011; Gan, 2012). F2F oral communication requires the learner's ability to decode input, process it, and simultaneously plan her output in a coherent discourse. It also expects the conversational partners to take instant decisions about the style of communication, register, cultural referents, and conventions, pronunciation, lexicon, and syntax, both in listening and speaking (Abrams, 2003).

Except for the knowledge of social roles, sociolinguistic rules, socially and culturally relevant information, general world knowledge, decoding and encoding input, the mastery of linguistic forms is a prerequisite (Saville-Troike, 1993). The various linguistic forms that constitute the elementary units of oral proficiency are divided by researchers into three main strands, including linguistic complexity (i.e., lexical sophistication, diversity, and density, as well as syntactic length, variation, and interdependence), accuracy, and fluency (i.e., speed, silence or breakdown, and repair) (Housen & Kuiken, 2009; Michel, 2017).

The way a learner uses those linguistic forms reflects the degree of their communicative sophistication. To improve oral communicative competence, learners should engage in purposeful interaction and produce meaningful output. The more they are required to produce output, the better their speaking skills become (Swain, 1995; Long, 1996; Gass & Mackey, 2007). Research findings have shown that negotiation of meaning in meaningful learner-to-learner interactions, increases learners' communicative skills and opportunities for noticing, focus on form, repair, and uptake (e.g., Lai & Zhao, 2006; Smith, 2010). Since CMC tools are interactive and offer ample opportunities for pushed output, they may facilitate the development of a richer lexicon, the form-focused linguistic modification, and thus the linguistic accuracy of the output (e.g., Payne & Whitney, 2002; Lai & Zhao, 2006; Smith, 2010; Blake 2000; Pelletieri 2000; Shekary & Tahririan, 2006; Nik et al. 2012). Therefore, they have the potential to contribute substantially to such learners' language communicative and linguistic sophistication of L2 oral skills.

2.4 CMC and Transferability to Oral Speech

A distinction should be drawn between SCMC and asynchronous CMC (ACMC) before discussing the potential transferability of CMC learning outcomes to F2F communication. SCMC refers to real-time interaction via digital tools, such as instant messaging mobile applications, whereas ACMC accounts for delayed-time communication via online electronic

mediums, such as emails or forums. Both these two types of digital communication afford extensive learner-to-learner negotiation of meaning and provide far more time for language production than that available in oral conversations. They both also use a written code, and the type of register produced is a hybrid in between those of written and oral styles of communication (Pellettieri, 2000). However, they differ in terms of planning time and social immediacy. SCMC is characterized by relatively instant responses and social proximity as well as the involvement of interlocutors. On the other hand, ACMC provides extended pre-planning, online planning, and decoding time, and it does not require the immediate presence of conversational partners (Abrams, 2003).

Although CMC is different from F2F communication, as it relies on literacy skills which may add a supplementary cognitive task of decoding and encoding meaning, this modality may facilitate the transfer of meaning and the form-focused linguistic modification of output. In a CMC environment, the communication of interlocutors is not hindered by pronunciation errors, and the talkers are offered more time for processing input and modify the output. This extended learner 'talk' time may result in the improvement of their interlanguage (Abrams, 2003; Blake, 2009, 2017; Michel, 2018a).

Therefore, although CMC is a modality in its own right, CMC and particularly SCMC appears to be an effective teaching medium for improving L2 oral skills. SCMC, as a form of pre-speech, can serve as a preliminary step toward F2F communication. In fact, it has been argued that text-based SCMC in a foreign language may be a useful stepping stone for oral language development as it can indirectly boost the speaking proficiency of learners by developing the same cognitive mechanisms underlying oral interaction (e.g. Blake, 2009; Payne & Whitney, 2002).

The theoretical ground for improving oral proficiency in SCMC environments is based on Levelt's (1989) Model of Speech Production, one of the most widely accepted models for

language processing (De Bot, 2000; De Bot et al., 2005). Levelt (1989, 1993) developed his model to visualize language processing in both the production and the comprehension of spoken language (see Figure 1). Based on Levelt's speech model, it is suggested that text-based SCMC follows the same cognitive processes, that are needed to produce the target language in face-to-face interaction. In fact, according to Blake (2009), the only difference is that in the face-to-face conversation, the muscles in the jaw are engaged (i.e., Articulator module), while in the SCMC, the muscles in the hands and fingers are activated for shaping the utterances (i.e., typing).

Figure 1

A schematic representation of the Levelt model (Levelt, 1989, 1993).
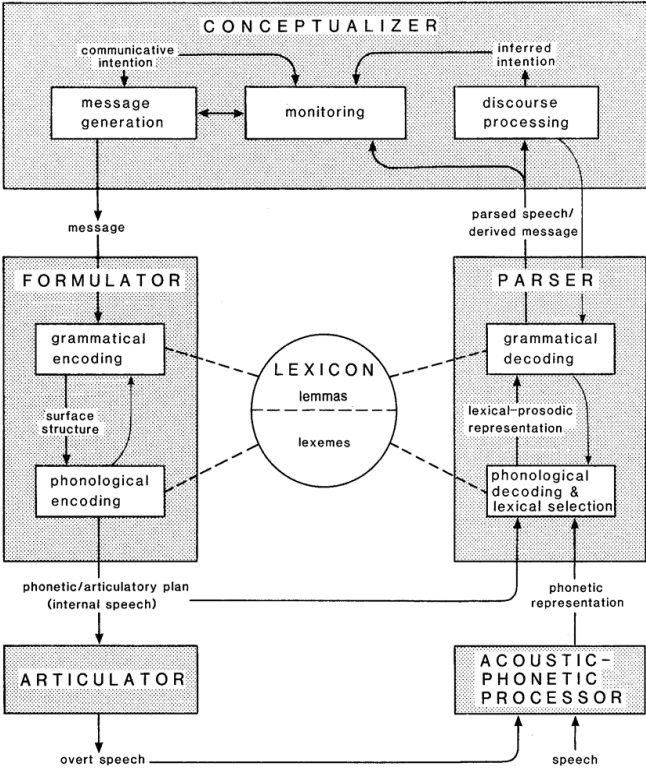
2.5 The Effect of Text-Based CMC Interaction on L2 Oral Development

After reviewing the literature, I noticed that there has been some research with promising results on the potential impact of SCMC on L2 oral language development. In one of the earliest research efforts on the field, Smith (1990) showed that L2 Spanish learners who

participated in supplementary online conferences displayed higher performance in oral communicative skills when compared to those who did not follow the computer conferencing sessions. Some years later, Beauvois (1997) investigated the differences in average oral test grades of 83 L2 French students randomly assigned to one of two experimental groups (i.e., SCMC group and F2F group), confirming previous findings. The students who participated in a weekly SCMC conversation displayed significantly higher mean scores on periodic speaking exams than those who participated in a weekly F2F discussion.

Until then, however, research in the field was not guided by a theoretical model that could account as a basis for understanding the L2 production processes involved. Payne and Whitney (2002), based on Levelt's production model (1989, 1995) augmented with Working Memory theory, tested the hypothesis of a cross-modality transfer of second language competency, taking into account individual differences. They examined the impact of text-based CMC on enhancing L2 oral development for different types of learners in terms of working memory capacity. The oral performance of 24 L2 Spanish learners who participated in the hybrid experimental group and spent two of four contact hours per week in a chatroom complementary to their face-to-face tasks, was compared to that of 34 learners who only conducted F2F activities. Participants in the experimental group scored notably higher than participants in the control group, according to teachers' ratings who followed the Teaching of Foreign Languages (ACTFL) oral proficiency guidelines.

Thus, the scholars suggested that SCMC practice develops the same cognitive processes underlying spontaneous oral communication. They argued that the text-based Internet chat environments can be a useful way of developing oral fluency by facilitating the automatization of lexical and grammatical knowledge at the formulator level of the Levelt's Model. They also provided a framework for making predictions about whose L2 development will benefit the most from SCMC practice and why. They indicated that low-working memory

students may particularly benefit from participation in chat rooms, as they have more time to process and respond to communicative tasks. However, they argued that the findings should be replicated with different populations, and different instructional treatments, using quantitative linguistic measures. In a follow-up study, Payne and Ross (2005) found a relationship between working memory capacity and language production in the chat room. The authors confirmed previous research results and suggested that performing activities via instant chat may potentially reduce the task cognitive load upon learners.

In an effort to confirm former suggestions, Abrams (2003) compared the language development of three groups of 32 intermediate-level German learners (i.e., ACMC, SCMC, and F2F), using quantifiable measures of language skills (i.e., CAF measures). The CMC activities carried out by the two experimental groups were supplementary to the regular F2F activities in the FL classroom. The SCMC and ACMC groups participated in text-based chat discussions on designated topics. Oral performance development was measured by the number of idea units (i.e., c-units) and words, lexical complexity (i.e., the lexical richness and diversity), and the syntactic complexity (i.e., coordination index) of learners' output. The results of this study revealed that the SCMC group had a significantly higher score than the other two groups in fluency (i.e., in the figure of idea units and words produced).

The author argued that the higher gains for the students who participated in the SCMC were the result of the increased opportunities for interaction provided during the instant chatting activities. The inherent differences between the two environments (i.e., turn-taking conventions in oral conversation) make it possible for the text-based chat group to use English far more in the chat room than in the F2F condition. Notably, the differences were of no significance in terms of lexical and syntactic complexity, which indicates that language gains of CMC practice should be also approached and interpreted through alternate ways that reflect

the interactive, and collaborative nature of CMC (e.g., fluency, learners' attitudes towards the CMC tasks in the classroom).

Considering these findings, later research efforts (e.g., Blake, 2000; Moayeri & Khodareza, 2019) mainly focused either on the linguistic consequences of CMC between FL learners and native speakers (NS) or the effect of different CMC tools (i.e., ACMC and SCMC text-based chats, ACMC and SCMC voice-based chats) on L2 development in terms of fluency, accuracy and/or research-specific parameters. For instance, Dussias (2006) compared the linguistic gains (i.e., accuracy and fluency) of interactions between NS of Spanish-nonnative (NNS) speakers of Spanish and NNS-NNS interactions in an attempt to assess the impact on oral performance. Results revealed that participants who interacted with native speakers benefited more from the use of CMC tools, while the language learning moderated by these tools appeared to transfer to spontaneous oral speech for both groups.

Satar and Özdener (2008) examined the effect of two SCMC tools -text and voice chat- on the L2 English speaking development of 90 beginner-level learners, as measured by a speaking scale specifically developed for the research. They found that oral proficiency scores of both text-based and voice-based chat groups were significantly higher in comparison to those of their peers in the control F2F group. Blake (2009) investigated the effect of text-based chats on the L2 oral fluency development of 34 L2 English learners who were enrolled in a 6-week course. Results showed that the participants in the text-based chat instructional treatment had a significantly higher score on the phonation time ratio and mean length of run measures than participants in the F2F and control environments.

Following the same rationale, Razagifard (2013) aimed to examine the impact of synchronous and asynchronous text-based CMC on oral fluency development of 63 intermediate-level L2 learners of English, by implementing a task-based language teaching (TBLT) lesson plan. Each of the three groups (voice-based CMC group, text-based CMC

group, and control group) of this study consisted of 21 participants who completed four different types of communicative tasks (i.e., jigsaw task, decision-making task, opinion exchange task, and problem-solving task) under different instructional environments. The results revealed that both synchronous and asynchronous text-based CMC can be an effective teaching tool to improve l2 learners' oral fluency when guided with appropriate language learning tasks.

Although the previously reviewed studies have demonstrated the great potential of CMC on L2 oral development, no studies to date have examined the effect of text-based SCMC on oral development, as gauged together by holistic, general, and task-specific linguistic measures. Thus, following the suggestion by Payne and Whitney (2002) and Abrams (2003), this classroom-based study aimed to address this gap by investigating the effects of SCMC practice in a different population. It explored the measurable consequences, in terms of relevant linguistic and holistic measures within a group of adolescent learners, by implementing a theoretically informed technology-mediated task-based instructional design.

2.6 Affective Reactions in CMC Environments

Reviewing affective factors in CMC environments, González-Lloret and Ortega (2014) argued that technology-mediated tasks may boost the students' engagement and participation, as well as reduce their anxiety and increase their motivation and creativity. In fact, previous research in this field (e.g., Chun, 1994; Darhower, 2002) appears to support these suggestions, showing that SCMC may lead to increased learners' participation, higher quality of language output, and greater amount of language production than in F2F communication.

Kelm (1992) analyzed the SCMC transcripts of 16 L2 Portuguese University students and reported a great degree of participation as measured by the mean length of utterances. Chun (1994) analyzed the SCMC discourse from 14 sessions between novice learners of

German. The researcher concluded that SCMC interaction in a foreign language classroom is useful for the development of communicative competence, such as turn-taking and dialogue management. Kern (1995) and Warschauer (1996) examined the amount of student participation among learners of English as an L2 and reported similar results. They indicated greater equality of participation and higher participation rate overall in the SCMC group, as measured by the number of words produced per speaker, in the SCMC discussion.

In another study, Darhower (2002) investigated students' participation rates and group dynamics in an SCMC environment in a group of L2 Spanish learners. He also investigated whether the chat room environment was appropriated for language learners to create their own community of language practice. The results confirmed previous findings and revealed an increase of social cohesiveness variables in the SCMC environment through the use of humor and various forms of role-playing.

Research findings (Chun, 1994; Kelm, 1992; Kern, 1995; Warschauer, 1996) have also implied that SCMC environments are regarded as less stressful in comparison to F2F interaction, highlighting the potential of reducing anxiety and improving the willingness to communicate (Ziegler, 2016). As Beauvois (1992) suggested, the reduced sense of immediacy in an SCMC interaction may provide learners with additional time to process input and produce output. This added time may be beneficial to learners with greater levels of anxiety or for learners with low proficiency levels, as they are offered additional opportunities to process what was said before typing a response (Beauvois, 1992). However, to date, there is little research that provides empirical evidence for lower levels of language anxiety during SCMC interactions than during F2F. According to Ziegler (2016), former studies, with few exceptions (e.g., Baralt & Gurzynski-Weiss, 2011) have mainly focused on self-reports and perception data, lacking a more objective perspective.

Baralt and Gurzynski-Weiss (2011) compared the anxiety levels between the two modalities and found no differences, although learners' perceptions of CMC use were positive. Satar and Özdener (2008) examined the effect of two SCMC tools -text and voice chat- on language learning anxiety of beginner-level learners and found a significant decrease only for the text chat group, raising concerns about the effects of voice conferencing on anxiety. Recently, Michel (2018) explored how teenage learners of German experience the use of SCMC as a teaching medium. This study was the first to evaluate language learning motivation and anxiety in relation to task perception, addressing the research gap as stated by Ziegler (2016). The students in that study showed medium to high motivation, medium anxiety, and relatively high appreciation of the SCMC tasks. The participants' responses on a task perception questionnaire revealed that they perceived SCMC practice to be beneficial for both written and oral interaction. It was also found that language output anxiety was associated with the task perception questions, indicating that this construct played a major role in their appreciation of the project.

Overall, based on this review, it is clear that while some studies showed that SCMC practice is related to reduced anxiety levels, others have more mixed findings. To get a more conclusive picture we need more research, investigating the extent that technology might influence learners' anxiety, and their subsequent L2 development and performance. Therefore, this research aimed to explore how the participants' motivation and anxiety are related to their perceptions regarding the use of such tools in English language lessons for newcomers.

3. Method

3.1 Participants

Fifteen (4 males, 11 females) refugee learners of English as an L2, who were enrolled in an English Foreign Language class for the year 2020-2021 at a vocational training center

(i.e., secondary vocational education/ MBO) in the Netherlands, participated in the study. They were at a low-intermediate level (i.e., A1-A2 CEFR level) as ascertained by their school's language center placement test and confirmed by their English teacher. All completed primary school education in their country of origin; two also graduated from high school. Ages ranged from 17 to 23 ($Mean_{age}$ = 19, SD = 4.4). They originated from Syria, Iran, Gambia, Sudan, and Eritrea. Next to their native language (i.e., Standard Arabic, Farsi, Tigrinya, Amharic, and Wolof) and Dutch, they spoke at least one other language fluently (i.e., Standard Arabic, Farsi, Tigrinya, Amharic, Wolof). They were currently enrolled in an English course for one hour and 20 minutes twice a week and most of them had systematically studied English for less than two years, after arrival in the Netherlands.

After informed consent, the study participants worked in pairs and a group of three. The members of these pairs were of the same gender, language background, and proficiency level (two male pairs, four female pairs, and one group of three females). Owing to the absence of some pupils on some tasks, last-minute changes in the pairing were necessary. Thirteen students completed all three treatment tasks.

3.2 Design

This study used a within-subject design to explore the effects of SCMC practice on F2F oral development. To improve ecological validity, the data collection was completed during the students' regular English classes. The treatment tasks were designed, based on the Triadic Componential Framework (Robinson 2005). Several factors named in Robinson's (2005) Triadic Componential Framework were controlled. For instance, the linguistic input material of the task instructions, pre-task, and online planning time conditions were kept as similar as possible in all tasks. The visual input of the three tasks was different based on the needs and affordances of this particular group of learners. Gender and language background

were controlled over participants. Figure 2 gives a schematic overview of the experimental design.

Figure 2

Experimental design and procedure

Week 1
Tues.
-Familiarization session
-Language background sheet

Week 2
Tues. &Thur.
-Pretests: ORAL and CHAT task in pairs

Week 3
Tues.
-SCMC Simple Task 1
- few elements
Perceived Difficulty Questionnaire

Week 4
Thur.
-SCMC Complex Task 2
+ few elements
Perceived Difficulty Questionnaire

Week 5
Tues.
-SCMC + Complex Task3
+ few elements
Perceived Difficulty Questionnaire

Week 6-7
Tues.&Thur.
-Posttests: CHAT and ORAL task in pairs
-Set of questionnaires on
Language motivation and anxiety, and Task Perception
-Interviews

3.3 Materials

The students were being prepared for the final speaking exams, in which they were asked to describe several pictures and a video. Thus, the tasks designed and used in this study were of narrative task type. All the materials used in this study are described separately below.

3.3.1 Treatment Tasks

A wide range of excerpts from the Mr. Bean television series was watched on YouTube, and after trialing them with advanced speakers of English, three were selected as adequate to capture different degrees of task complexity. Based on the Triadic Componential Framework (Robinson 2005) a series of increased cognitive complexity tasks were then designed. The task complexity was determined based on the factor ± few elements. The figure of elements refers to these elements of a task which can be counted and is the number of those elements that differentiates a simple from a complex task version. The manipulation of elements within the same task is suggested to require a wider range of language as well as

greater use of linguistic units than simpler tasks (Robinson, 2001). A post-task questionnaire on task perceived difficulty addressed to the participants, confirms the manipulation (see Appendix E).

Two sets of narrative tasks were originally created. For both sets, a simple task (-few elements), a complex task (+few elements), and a plus complex task (++few elements) were designed. In the first set, three versions (simple, complex, +complex) of the same narrative task "Mr Bean at the swimming pool" were created. In the second set, three similar narrative tasks of increasing complexity were designed based on three different clips of Mr Bean. After discussing with my Thesis supervisor and the English classroom teacher, we decided that the second set was a better fit. It was thought that by repeating the same task three times, students might lose interest, which could affect their performance negatively. Introducing different structured tasks focused on the adventures of the same main character though, would keep their motivation high and help them learn new vocabulary, while still following the theoretical guidelines of the Triadic Componential Framework (Robinson 2005).

Figure 3

Clips used for task completion

Task	Clip Title	YouTube Link
1	Mr Bean at the swimming pool (00:00-05:50)	https://www.youtube.com/watch?v=ZQryUvMpGk8&t=358s
2	Mr Bean goes to bed (00:00-03:30)	https://www.youtube.com/watch?v=OSgT1Kve3dQ&t=211s
3	Mr Bean at the hospital (00:40-02:52)	https://www.youtube.com/watch?v=2v3mLxd2FfA

The original clips were video edited to reduce their length so that they ran for approximately four to six minutes. Then, several screenshots of each excerpt were captured and copied into Word documents which served as the task worksheets for the participants.

The three clips are displayed in Figure 3 above.

In all conditions, each chat task cycle consisted of a prerecorded video with two advanced speakers of English performing the task orally (see Appendix C2), a pre-task vocabulary activity, and an SCMC task. Instructions were kept similar in all three narrative main tasks and explained that they should chat with their partner for ten minutes, describe the pictures in the right order and use the useful words and phrases provided. Pre-planning time was set to one minute for all tasks. The three videos with the two advanced English speakers were recorded in three sessions using the ZOOM platform for video and audio conferencing. Subtitles were added manually by the researcher through CLIDEO video editing online platform. The same advanced English speakers performed the tasks via WhatsApp as well, in order to specify the time needed to complete each task. The nonnative English speakers who volunteered to help were students of MA Applied Linguistics at the University of Groningen, estimated at C2 CEFR level in English.

For the completion of each task, every participant received:

- A pre-task vocabulary worksheet containing sentences with the required model structures for the description of the narrative tasks (e.g., he is brushing his teeth, there is a toothbrush, etc.) as well as creative use of them (e.g., she is brushing her teeth, there is a table). For the vocabulary activities, the students were asked to match the phrases with the pictures presented in a PowerPoint presentation (see Figure 4 & Appendix C1).

Figure 4

Example of a task vocabulary worksheet

Task 1 Vocabulary Worksheet

You will see 16 pictures on a PowerPoint presentation!

Read the sentences and find the correct phrase for each picture!
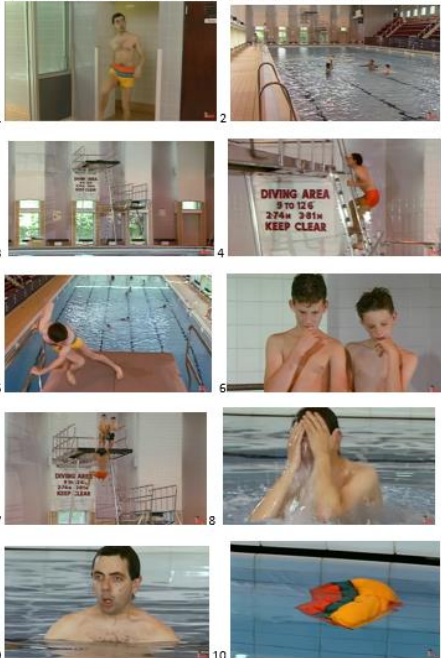
If you know the answer, raise your hand!

1. In the picture, I can see a swimming pool

2. They are playing with the ball

3. In the picture I can see some children

4. In the middle of the picture, I can see a group of people

5. There are two bathing suits

6. He is climbing up the stairs

7. There are two diving boards

8. The young boy is feeling afraid

9. He is feeling shocked

10. He is tired to wait

11. In the picture, I can see a water splash

12. In the picture, I can see a naked hippopotamus

13. They are jumping

14. They are throwing snowballs at each other

15. The orangutan is hanging from the tree

16. The man is floating on the water

- A full-color worksheet with screenshots of each narrative and the same model structures they could use for the description of the frames as well as phrases they could use when communication broke down. In the simple condition, participants received a worksheet with 10 frames of the first clip illustrating only the main events of the narrative; each picture represented a concrete, observable event. In the complex condition, there were 14 frames that showed the main character in stages of planning or frustration before or/and after each concrete action or event. In the plus complex condition, 16 frames showed the main character interacting with other people and the learners had to incorporate additional elements in their narrative (see Figure 5 & Appendix B).

Figure 5

Example of the simple task 1 worksheet

Task 1

You and your partner each have 10 frames/pictures.

These pictures together tell a story of Mr. Bean.

Each picture has a number. This number indicates the order of the pictures.

Look at your pictures carefully and take a few moments (3min) to think before you start chatting with your partner. Read the useful words and phrases!

Chat with your partner, describe the pictures in the right order, use the useful words and phrases! Try to understand the story!

You will describe all that you can see in the picture (the place, the people, and the objects) and explain what you think is happening and how the people are feeling: **What is in the picture? Where in the picture? What is happening** in the picture?

Try your best, describe the details, and tell the story! You have 10 minutes!

Useful words and phrases for description of pictures:

What is in the picture?
 In the picture I can see …
 There is / There are …
 There isn't a …

Say what is happening with the present continuous
 The man/woman is …ing

Where in the picture?
 At the top/bottom of the picture …
 In the middle of the picture …
 On the left/right of the picture …
 next to
 in front of
 behind
 near
 on top of
 under

If something isn't clear
 It looks like a …
 Maybe it's a …

Examples of linking words
…because…, and, then, after that, before, but

How to ask if you don't understand

I am sorry, I didn't understand. Is the man/woman …ing?/are the people ..ing?
What do you mean by …? Maybe you want to say….?
Could you please repeat?

3.3.2 Pretest and Posttest Tasks

The same two six-picture-based narrative tasks were used as pretest and posttest. The tasks were based on a six-picture strip story (i.e., "a surprise story") from Heaton (1975) (see Appendix A). The learners had to look at the pictures for no more than one minute and describe the pictures together orally or via chat. For the oral task, the original version of the picture story was used, which displays the adventure of a man and a boy who stole the bag of a traveler at the airport. For the chat task, the pictures were slightly changed using Photoshop Image editing, and design computer software, turning the man and the boy into a woman and a girl. This procedure was followed, in case the participants preferred to describe stories about females rather than males and vice versa. The use of the stories was counterbalanced among participants.

3.3.3 Set of Questionnaires

Every participant filled in a set of questionnaires that tapped into:

3.3.3.1 Language Background Information

Apart from age and gender, the form asked detailed questions about the language background, (e.g., their mother tongue(s), the knowledge of any other languages) (see Appendix D).

3.3.3.2 Language Learning Motivation

An adapted version of the questionnaire designed by Kormos et al. (2011) was administrated to measure pupils' language learning motivation and anxiety in English (see Appendix F). On a six-point Likert scale from strongly disagree to strongly agree, students responded to a total of 24 statements (four per construct). Statements targeted the following constructs: language learning anxiety, instrumental motivation, intrinsic motivation, motivational intensity, ideal L2 self, and international orientation. Six additional statements were addressed to the students, targeting anxiety they may feel when chatting in English and the use of technology to support learning English (three statements each). Statements were presented in a randomized order. The reliability of these scales is acceptable since Cronbach's alpha values were set above .700 (see Results section).

3.3.3.3 Task Perception

Based on the questionnaire on task perception designed and used by Michel (2018), eight questions were addressed to the participants to rate their perceptions of the SCMC project. They were also asked to tick three adjectives they associated most with the project (e.g., useful, boring) (see Appendix G).

3.3.3 Focus group and Teacher Interview Questions

The short (15-minute) oral interviews consisted of a few predetermined open-ended questions targeting the students' and the teacher's perceptions of SCMC in the FL classroom (see Appendix H).

3.3.4 Software

Two mobile applications were used for the data collection. WhatsApp instant messenger was utilized for chatting among students and Easy Voice Recorder for oral data collection. WhatsApp mobile application was chosen as the interface because all students already had it installed on their mobile phones and they were familiar with it.
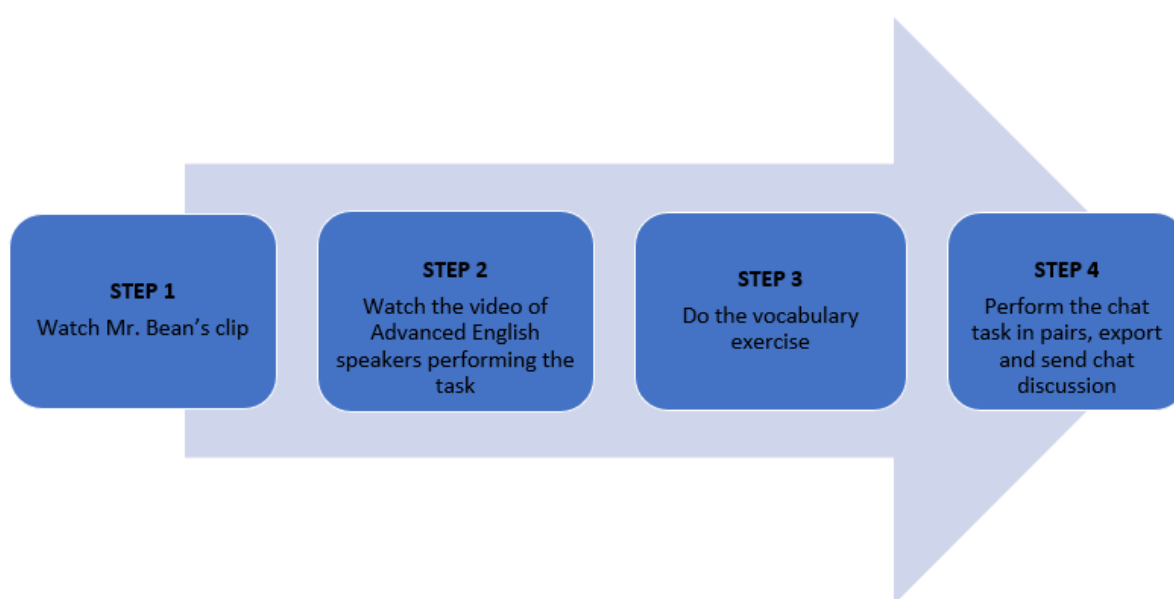
3.4 Procedure

The two narrative pretest tasks (i.e., F2F and SCMC tasks) were administered in two consecutive lessons in a week, and before the treatment tasks. For the pretest F2F task, each pair of students had to sit in a separate and quiet room with the researcher, who provided them with a worksheet with task instructions and explained to them orally what they had to do. After looking at the pictures for one minute, the students had ten minutes to describe the story together. Their discussion was recorded. The pretest SCMC task was administered during the following lesson in their regular classroom. Again, the students were given a worksheet with the instructions of the task and had one minute to look at the pictures. Then they were asked to perform the task, export the discussion, and email the chat logs to the researcher. All participants completed the pretest tasks.

On the treatment tasks implementation days, the participants first watched the Mr Bean clip, a prerecorded video with two advanced speakers of English performing the task orally and completed a pre-task vocabulary activity (see Figure 6). This procedure was 30-40 minutes long. Next, the participants carried out the chat task, exported and e-mailed their discussions, and filled out a perceived task difficulty questionnaire, which together took about

20 minutes to complete. The short questionnaire was addressed to participants after the completion of each of the three treatment narrative tasks to confirm that the participants perceived the tasks as difficult as expected (see Appendix E). The treatment tasks were completed in three sessions during a period of five weeks due to lesson cancellations, national days celebrations, and Easter vacation break.

Figure 6

Schematic overview of a task cycle

STEP 1	STEP 2	STEP 3	STEP 4
Watch Mr. Bean's clip	Watch the video of Advanced English speakers performing the task	Do the vocabulary exercise	Perform the chat task in pairs, export and send chat discussion

Following this, the posttest tasks were performed. While the instructions and conditions (e.g., pre-task planning) of the posttest tasks were the same as the pretest tasks, the administration sequence was reversed to avoid a task order effect. First, the SCMC task was completed in pairs and a group of three at the regular English language classroom, and then each pair and the group of three performed the F2F task in a separate room with the researcher. At the end of the study, the learners filled out the language motivation and anxiety questionnaire, as well as the questionnaire on task perception, which took about 20 minutes to complete. Directly after their last task, five students participated in a focus group interview (see Appendix H1). All 15 participants completed the posttest tasks, and questionnaires. The

interview with the teacher was conducted online in ZOOM and lasted 15 minutes (see

Appendix H2).

Prior to the administration of the material, consent was granted from the participants

(see Appendix D). The same day, I explained the project procedure orally accompanied by a

PowerPoint presentation. During this familiarization session, the participants also filled out

the language background sheet and watched a tutorial video in both Arabic (i.e., the mother

tongue of most of the participants) and English on how to export the chat discussions on

WhatsApp.

The full study project was conducted in seven sessions during their regular English

lessons. I collected the data and delivered the pretest, posttest, and treatment tasks. The

classroom teacher was present throughout the study and helped me arrange any practical

issues.

3.5 Coding and Analysis

The analysis of the learners' transcripts consisted of both quantitative and holistic

measures. For this study, I compared the production at pretest oral and chat tasks versus the

production at posttest oral and chat tasks as well as the production at pretest and posttest oral

tasks versus the production at pretest and posttest chat tasks. The WhatsApp chat logs were

used as transcriptions for analysis. The speech samples, for which transcripts were not

automatically generated, were manually transcribed and analyzed. Figure 7 shows an

overview of the measures used in this study.

Figure 7

Overview of the language measures

Construct	Measures
1.Fluency	Oral: Speaking rate, Average length of pauses
	Chat: Total number of clauses, Total number of words
2.Accuracy	1st grade errors, 2nd grade errors, 3rd grade errors, Total ratio of errors per 50
	words
3.Task-specific accuracy	Use of *Present continuous*, Use of *There is/are*, Use of *Can + Infinitive*
4.Functional use of language (FLU)	Storch's (2005) 5-scale global evaluation scheme

3.5.1 Fluency

Fluency in oral speech samples was coded on the basis of the fluency variables cited in the literature. Two measures were chosen for this study, namely speaking rate (SR) and the average length of pauses. SR refers to the number of syllables per second and it is calculated by dividing the total number of syllables each speaker produced in the speech sample by the total length of time, in seconds, of the sample (including pause time). The average length of pauses is calculated by dividing the total length of pause time (both silent and filled) by the total number of pauses (Kormos & Denes, 2004). For the chat logs, fluency was measured in terms of the number of words, and clauses per speaker in each chat log (Wolfe-Quintero, Inagaki, & Kim, 1998).

3.5.2 Accuracy

To gauge general accuracy of use, degrees of errors were used to weigh the severity of an error in terms of communicative adequacy (Foster & Wigglesworth, 2016; Kuiken & Vedder, 2008); The error categories were formulated after revising the literature (Gilabert, 2005; Robinson, 2001; Michel, 2017). As first-degree errors were considered minor mistakes like omitted articles; second degree more severe mistakes such as lexical errors (i.e., words in another language than English, unusual word forms), mispronounced words, and agreement errors; third-degree were mistakes that make an utterance nearly incomprehensible, for example, a combination of wrong word choice, word order, omissions of verbs and

incomprehensible accent. Each clause or Analysis of Speech (AS) unit was assigned a score based on their accuracy and a total ratio of errors per 50 words was calculated per speaker in each SCMC and F2F transcript. The AS-unit is a speaker's utterance consisting of a main clause and any sub-clausal units (Foster et al. 2000). First-degree errors were scored with 0.5, second-degree with 1, and third-degree with 1.5 points. Other mistakes (e.g., spelling and punctuation errors) were disregarded for the purpose of this study.

3.5.3 Use of Target Structures

In addition to an analysis by means of global accuracy measures, the data were coded for task-specific accuracy measures. The participants were at a low intermediate level of language proficiency and as such almost no error-free units or clauses were expected. Thus, in order to tap even slight differences in task performance, accuracy was also gauged by task-specific measures. This analysis is performed following a suggestion of Robinson and colleagues to complement global CAF-measures with task-specific ones (Robinson & Gilabert, 2007). The present study examines the frequency and occurrence of the accurate use of the target structures:

- *Target structures*: use of *present continuous*, the phrases *there is/there are* and the verb *can plus infinitive* (*can* + infinitive) without the preposition of purpose "to".

The rationale behind it is that the production of those linguistic structures is expected to be elicited in narrative tasks manipulated on the factor ± few elements. That is, both the cognitively simple and complex tasks ask for the use of the target structures when describing the pictures.

Based on previous findings and suggestions (e.g., Abrams, 2003, see Literature Review), linguistic complexity was not measured. Moreover, the participants were at an early stage of L2 development, and they were not expected to use a broad range of grammatical structures and vocabulary.

3.5.4 Functional Use of Language

In addition to this, I also took into account the functional dimension of the participants' production (FLU) by carrying out a holistic assessment of their transcripts (Kuiken, Vedder, & Gilabert, 2010; Pallotti, 2009). Its inclusion is important in order to obtain a more comprehensive assessment of students' production. Functional adequacy was measured using Storch's (2005) 5-scale global evaluation scheme, which was adapted to the content of the tasks I employed. This evaluation considered the content and structure of the transcripts, as well as the degree of task fulfillment (see Figure 8).

Figure 8

Storch's (2005) 5-scale global evaluation scheme

Holistic rating scale Guidelines to global evaluation of language performance adapted from Storch (2005)

The language output is assessed on a score out of 5. This score evaluates the language output mainly in terms of structure and task fulfilment. In order to fulfil the task, the product needs to include the description of the main elements that appear on the pictures and the narration of what happens should also be clear.

5. This is a very good result. The output is well structured. It contains a clear and complete description of the pictures and the narration of the story is logical. Ideas are clearly organized, and good use is made of linking words/phrases.

4. This is a good result. The output has a clear overall structure. All pictures are described, and the narration of the story is easy to follow most of the time. Ideas are generally well organized and linking words/phrases are generally used appropriately.

3. This is a satisfactory result. It has an overall structure, but the description of some pictures may be incomplete and the narration of the story hard to follow. Linking words/phrases may be missing or used inappropriately.

2. This is an adequate result. It is difficult to follow because the description is very incomplete, and the narration is not well organized. There is a general lack of linking words/phrases. There might be repetitions.

1. This is a poor result. It is poorly organized and difficult to follow. Description and narration are poor or absent.

3.5.5 Language Motivation and Anxiety

Regarding the affective variables, answers to the questionnaire items were aggregated into scores per construct if relevant (i.e., task-motivation questionnaire) and reported as

means in relation to the Likert scales as well as the frequency of assigned answers (e.g., task perception). The focus group and teacher's interviews were transcribed, and comments were used to complement the other data sources.

3.5.6 Analysis

Descriptive statistics were calculated for the different linguistic measures of the output of each participant for both SCMC and F2F pretest and posttest tasks. To address the first question and examine whether L2 oral performance is improved after the treatment, multiple paired-samples t-tests and Wilcoxon signed-rank tests were conducted. To measure the effect sizes Cohen's d was calculated for paired t-tests and matched-pairs rank-biserial correlation coefficient for Wilcoxon signed-rank tests. Based on the Levelt's Model (1989, 1993) for language processing and previous claims (e.g., Payne & Whitney, 2002; Payne & Ross, 2005; Razagifard, 2013), it was hypothesized that the SCMC learning outcomes would transfer to F2F communication. It was expected that all general measures of language proficiency would show an overall increase over time to a lesser or greater extent. It was also expected that the task-specific variables (i.e., accurate use of the target structures), would display the greatest degree of development (Robinson & Gilabert, 2007).

To answer the second research question, and investigate how the constructs of language motivation, language output anxiety, technology use, chat anxiety, and task perception were related to each other, correlation matrix analyses based on ranks were performed. Considering previous mixed findings, no specific hypothesis was determined.

This research question was also examined by calculating the frequency of ratings on the complementary questions and tapping into the students' and teacher's comments. From the literature review (e.g., Baralt & Gurzynski-Weiss, 2011; Ziegler, 2016; Michel, 2018), it was hypothesized that the use of SCMC in the classroom will be regarded as beneficial and for language learning, as well as less stressful than F2F communication. For the statistical

analysis R was used, a free software environment for statistical computing and graphics for Windows software. The alpha level was set to p<.05.

4. Results

This chapter presents the results pertaining to two research questions by analyzing the data quantitatively and qualitatively. First, examples of chat and oral interactions are displayed, and the linguistic performance is reviewed to explore SCMC effects on the L2 learning system. Next, data on how the participants experienced the use of SCMC in their language classroom are displayed. Finally, students' and teacher's interview answers are highlighted that indicate their thoughts about SCMC use in the classroom as well as this specific project.

4.1 Examples of Chat and Oral Interactions

During the time allotted per task, pairs generated around eight turns for chat tasks and 10 turns for oral tasks (Pre chat task: $M = 10.42$, $SD = 5.65$; Post chat task: $M = 6$, $SD = 1.26$; Pre oral task: $M = 11.28$, $SD = 3.30$; Post oral task: $M = 7.57$, $SD = 2.22$), summing up to at a total of 112 turns on chat tasks, and 140 turns on oral tasks for all participants. In chat interactions, a turn refers to the language produced by one participant before hitting the *enter* key. In oral interactions, a turn is defined as the language produced by one interlocutor when she is talking and the partner listens.

Figure 9a and 9b show four excerpts of chat and oral interactions by two pairs while performing pretest and posttest tasks. As it can be seen in the examples of pretest tasks, the participants used short, coordinated sentences, trying to label the main events of the story. Overall, the plot is weak, and even if there are attempts at the narrative structure (e.g., use of linking words: *but, then*), the narration of the story is sometimes hard to follow.
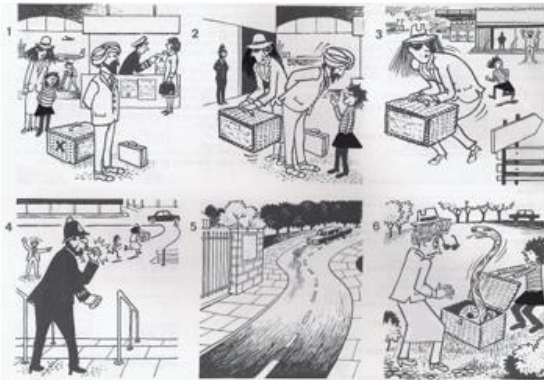
Figure 9a

Examples of pretest oral and chat task performance

Pre Chat task

    A: There one man, and also a girl she looking at him. Now you.

    R: The girl speaking with the man in the other man the with the girl was, back then the bag from the man

    A: But the man ran away with the bag

    R: Then the policeman saw them but the man ran away to the car

Pre Oral task (target structures underlined)

    S: There is one man with two bags and behind him there one woman with her <eh> child.

    K: Finish? There are two mens//men and one child and one man after them, there is a box and a bag. The child ask for her father what is this <eh> box

    S: Third picture <eh> the woman picked the bag and running// she is running with her child

    K: He is a man at the straat (@Dutch). The children running for the car. The car is away.

        In posttest tasks, however, the participants show the ability to use more complex noun phrases and adjectives, they give more details with a satisfactory level of accuracy that transfer meaning. The dialogue has an overall narrative structure, although the description of the pictures is not always complete. Also, they all use at least two of the target structures in their production. For instance, in the posttest chat task, A. uses both *present continuous* and the structure *can + infinitive* in turn 1. Her chat partner, R., follows her example in turn 2 and creates a sentence using creatively the same structures. Overall, they construct coherent and intelligible sentences without severe omissions or obvious jumps.

Figure 9b

Examples of posttest oral and chat task performance

Post Chat task (target structures underlined)

A: In the first picture, I can see one man with two bags ana also I see one man with a child they are looking at the man

R: In the 2 picture I can see a girl speaking with the man and the other man is stealing the bag, the bag from the man

A: In picture 3 I can see his father stole the box. In the picture 4 I see a policeman whistles and the man and the child are running away with the bags to the car.

Post Oral task (target structures underlined)

S: In the picture I can see six people, two men, one child, one man and behind the woman there is an old man. I think it is in the airport. And the old man with the beard is looking in front of and behind him is there a big box and next to him a small box. And behind him there is a woman and their child.

K: In this picture I can see, four, three men and one child, the other is outside them. A man is looking with his child and behind them is a thief, he stole the box.

S: In the third picture I can see the woman, she is holding a box and she is running away and behind them is their, their children. The old man is put his hands haut (@Dutch).

4.2 Pretest and Posttest Linguistic Performance

4.2.1 Descriptive Statistics

The descriptive statistics of the general, task-specific, and holistic measures are presented in Table 1. The percentage of improvement from pretest to posttest is presented in the *Gain* column for each measure. Figures 10a and 10b visually display the gains for all measures. Due to the negative impact of pause length on oral fluency performance and the negative effect of errors on general accuracy, a decrease on these measures is considered gain in oral fluency and general accuracy performance accordingly. The data clearly indicate that

the participants made gains in all fluency, general and task-specific accuracy, as well as holistic measures in both conditions. However, in both conditions, the gains made by participants on general and task-specific accuracy variables were the strongest.

Table 1

Descriptive statistics of results on different linguistic measures (N=15)

| Measure	Chat Performance					Oral Performance				
	Pretest		Posttest			Pretest		Posttest		
	M	*SD*	*M*	*SD*	*Gain %*	*M*	*SD*	*M*	*SD*	*Gain %*
Chat Fluency										
Total Number of Clauses	4.40	2.06	6.13	2.07	39.3	-	-	-	-	
Total Number of Words	50.6	19.4	59.1	19.5	16.7	-	-	-	-	
Oral Fluency										
Speaking Rate	-	-	-	-		1.63	.970	1.76	.588	7.98
Average Length of Pauses	-	-	-	-		2.63	1.66	1.65	1.12	37.3
General Accuracy										
1st Grade Errors	.900	1.11	.366	.639	58.9	.071	.18	.431	.385	514
2nd Grade Errors	3.73	2.76	2.73	2.19	26.8	5.43	2.56	3.64	1.98	32.9
3rd Grade Errors	1.10	1.55	.800	1.37	27.3	1.07	.916	.535	.949	49.5
Total Ratio of Errors per 50words	6.01	3.03	3.22	1.89	46.3	5.20	1.94	2.70	1.59	48.1
Task-Specific Accuracy										
Use of *Present Continuous*	.400	.83	1.73	1.87	342	.500	.76	3.64	2.59	628
Use of *There is/are*	.133	.351	.333	.487	153	.714	.913	.928	1.49	30.9
Use of *Can + Infinitive*	.066	.258	1.87	1.64	2571	.142	.362	3.50	1.45	2.40
Functionality of description	2	.925	2.27	.798	13.5	1.57	.65	2.71	.870	72.6

Note: Gain = Percentage representing the improvement from pretest to posttest.

At a face value, the participants demonstrated overall similar average gain scores on all but three measures, namely the use of *present continuous*, the use of the structure *there is/there are,* and FLU. In oral condition, the participants used the *present continuous* tense

almost two times more than in chat condition, while they used the target structure *there is/there are* three times less. Moreover, as far as the FLU is concerned, the participants showed notably higher average gain scores in the oral condition.
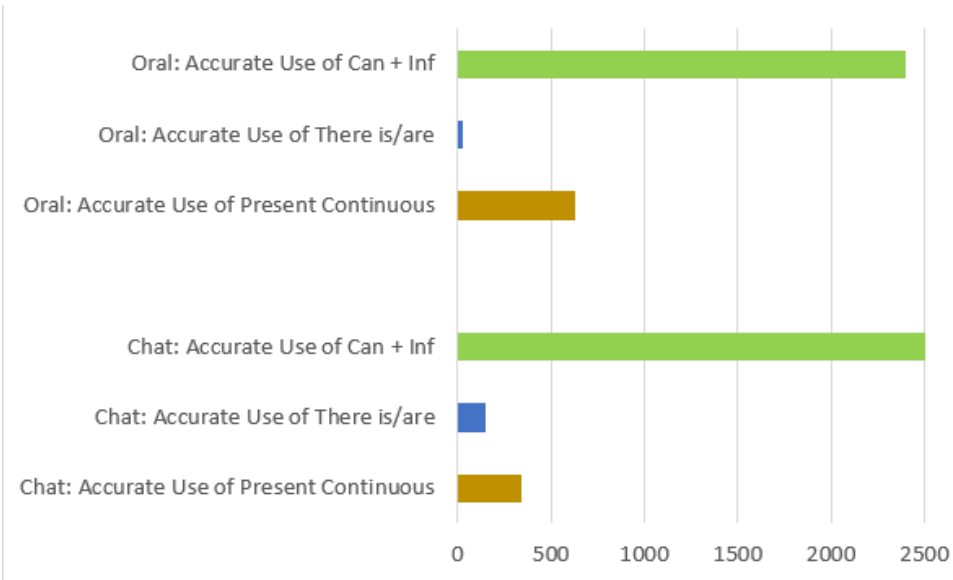
Figure 10a

Gain scores for general and holistic measures
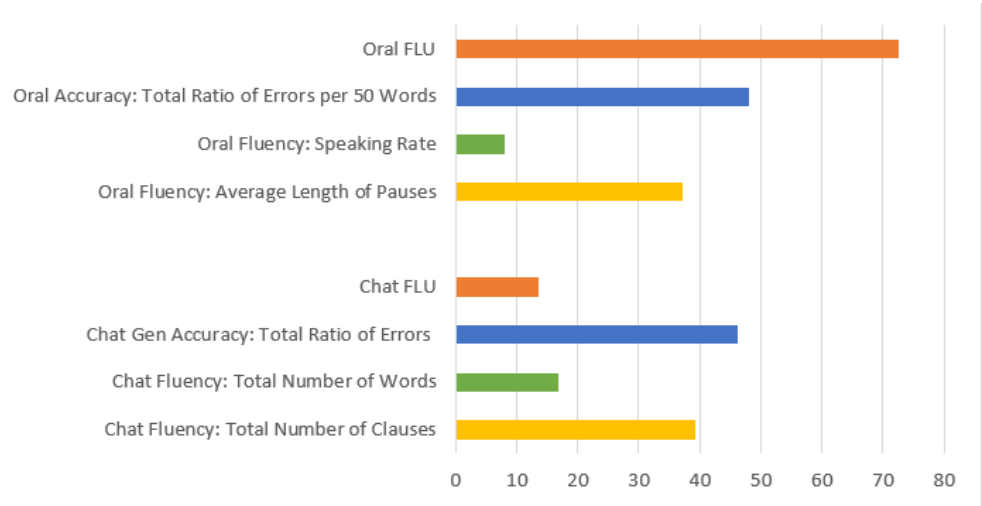
Figure 10b

Gain scores for task-specific measures

4.2.2 Comparisons of Means and Effect Sizes

Planned comparisons were conducted within the group to test the hypotheses of the study. After checking the histograms and the Shapiro-Wilk tests, the data were not always normally disturbed, therefore:

> ➢ Ten paired-samples t-tests and 10 Wilcoxon signed-rank tests were conducted to compare the means between the pretest and the posttest scores for all measures in both conditions (see Table 2).

Table 2

Results of the statistical tests conducted examining the mean difference between pretest and posttest task language performance in both conditions (N=15)

Measure	Chat Performance Test T/V	df	p	ES	Oral Performance Test T/V	df	p	ES
Chat Fluency								
Total Number of Clauses(T)	2.25	14	.041*	.839	-	-	-	-
Total Number of Words(T)	1.47	14	.165	.435	-	-	-	-
Oral Fluency								
Speaking Rate(V)	-	-	-	-	78	14	.118	.251
Average Length of Pauses(T)	-	-	-	-	-2.27	14	.040*	.284
General Accuracy								
1st Grade Errors(T/T)	-1.45	14	.167	.590	2.92	14	.011*	1.19
2nd Grade Errors(T/V)	-1.78	14	.096	.204	1.5	14	.014*	-.925
3rd Grade Errors(V/V)	8	14	.298	.714	3	14	.119	-.571
Total Ratio of Errors per 50 words(T/T)	-4.20	14	.000**	-1.10	-4.64	14	.000**	1.41
Task-Specific Accuracy								
Use of *Present Continuous*(V/T)	59	14	.021*	.833	4.25	14	.000**	1.65
Use of *There is/are* (V/V)	20	14	.298	.428	7.5	14	1	.333
Use of *Can + Infinitive* (T/V)	4.73	14	.000**	1.53	105	14	.001**	.973
FLU (V/V)	38.5	14	.227	.400	78	14	.001**	.956

Note: Test = Statistical Test (T for Paired T-test or V for Wilcoxon Rank Sum test); ES = effect size (Cohen's d for Paired T-test or matched-pairs rank-biserial correlation coefficient for Wilcoxon Signed-Rank test); * = significant at p < 0.05; ** significant at p < 0.01.

> ➢ Seven paired-samples t-tests and nine Wilcoxon signed-rank tests were conducted to compare the means between the chat and oral pretest performance as well as the chat and oral posttest performance for accuracy, use of target structures, and FLU (see Table 3). Since different fluency measures were used to gauge chat and oral fluency, I did not perform any inferential statistics on them.

Table 3

Results of the statistical tests conducted examining the mean difference between chat and oral pretest performance as well as chat and oral posttest task language performance (N=15)

Measure	Pretest Performance				Posttest Performance			
	Test T/V	df	p	ES	Test T/V	df	p	ES
General Accuracy								
General Accuracy								
1st Grade Errors(V/V)	-0.77	14	.001**	.903	10	14	.539	1.19
2nd Grade Errors(T/T)	-1.97	14	.068	-.607	-1.82	14	.090	-.435
3rd Grade Errors(V/V)	31	14	.887	.010	9	14	.783	.201
Total Ratio of Errors per 50 words(T/T)	1.156	14	.266	.331	1.483	14	.161	.284
Task-Specific Accuracy								
Use of *Present Continuous*(T/T)	-.396	14	.697	-.169	-2.40	14	.031*	.789
Use of *There is/are* (V/V)	1.5	14	.065	.189	0	14	.097	.341
Use of *Can + Infinitive* (V/V)	2	14	.772	.087	0	14	.002**	.233
FLU (V/T)	21.5	14	.218	.181	-2.28	14	.040*	-.505

Note: Test = Statistical Test (T for Paired T-test or V for Wilcoxon Rank Sum test); ES = effect size (Cohen's d for Paired T-test or matched-pairs rank-biserial correlation coefficient for Wilcoxon Signed-Rank test); * = significant at p < 0.05; ** significant at p < 0.01.

The effect sizes (ESs) for each of the planned comparisons are also presented in the final column of each condition in the same tables. Cohen's d was calculated for paired t-tests and matched-pairs rank-biserial correlation coefficient for Wilcoxon signed-rank tests. Cohen (1988) defines small ESs as those that are 0.2 or less, medium as 0.5, and large as 0.8 or higher. For matched-pairs rank-biserial correlation coefficient (Kerby, 2014; King et al., 2011), values range from -1, indicating that all values of the posttest are smaller than the

pretest, to +1 indicating that all values of the posttest are larger than the pretest; larger values indicate a more favorable tendency to the hypotheses of this study.

Looking into Table 2, the results reveal that regarding the chat condition the participants scored higher in the posttest on both fluency measures, namely the total number of clauses and the total number of words than in the pretest. For the total number of clauses, this difference was significant t (14) = 2.25, p <.05, 95% CI [0.079, 3.39], and the effect was of a large size *Cohen's d* =.84. For the total number of words though, the difference in means was not found significant. The participants also showed better accuracy in the posttest on all error rates, indicating a gain in their performance. The differences in general accuracy performance were only found significant for the total ratio of errors per 50 words t (14) = -4.20, p <.01, 95% CI [-4.21, -1.37], with an effect of a large size *Cohen's d* = -1.10.

Moreover, the posttest scores in all task-specific measures, use of *present continuous*, use of *there is/are*, and use of *can + infinitive*, were higher in comparison to the pretest scores. The differences were important for all measures but the use of the target structure *there is/are*; use of *present continuous V* (14) = 59, p <.05, with a favorable effect size r_{rb} = .83, and use of *can + infinitive t* (14) = 4.73, p <.01, 95% CI [0.98, 2.61], with an the effect of a large size *Cohen's d* = 1.53. Finally, even though the participants scored also higher on the FLU in the posttest than in the pretest, the difference in means was not found significant.

Regarding the oral condition, the comparisons indicate that, similar to the chat fluency results, the participants reached a higher score in the posttest on both fluency measures, namely speaking rate and average length of pauses than in the pretest. For the average length of pauses, this difference reached a level of significance, t (14) = -2.27, p <.05, 95% CI [-1.90, -0.048] and the effect was of a medium size *Cohen's d* = 0.28. For the speaking ratio though, the difference in means was not found significant.

In line with the results in chat condition, the participants scored lower in the posttest on almost all general accuracy variables, second-grade errors, third-grade errors, and the total ratio of errors per 50 words than in the pretest, revealing gain in their performance. The average score on first-grade errors, however, was lower in the pretest in comparison to the posttest, indicating that while there was a decrease of the severe and total ratio of mistakes in participant's speech, at the same time there was an increase of minor mistakes. The differences in general accuracy performance were found significant for most of general accuracy measures: first-grade errors t (14) = 2.92, p <.01, 95% CI [0.34, 2.03]; second-grade errors V (14) = 1.5, p <.05, with a favorable effect size r_{rb} = -.93, and total ratio of errors per 50 words t (14) = -4.64, p <.01, 95% CI [-2.28, -0.55], with an the effect size of a large size *Cohen's d* = 1.41.

Additionally, the posttest scores in all task-specific measures, use of *present continuous*, use of *there is/are*, and use of *can + infinitive*, were notably higher in comparison to the pretest scores. Same as in the chat condition, the differences in means were significant for two out of three target structures, namely use of *present continuous*, t (14) = 4.25, p <.01, 95% CI [0.75, 2.55], with an effect of a large size *Cohen's d* = 1.65, and use of *can + infinitive*, V (14) = 105, p <.01, with a favorable effect size r_{rb} = .97. Finally, contrary to the chat condition results, the participants scored significantly higher on the functionality scale of oral language production in the posttest than in the pretest, V (14) = 78, p <.01, with a favorable effect size r_{rb}= .96.

The statistical comparisons between the means of preoral and prechat tasks as well as postoral and postchat task performance displayed in Table 4, pretty much confirm the findings at face value (see Figures 7a and 7b). In detail, the participants displayed similar performance in pretests and posttests in all measures but first grade errors V (14) = 0.77, p <.01, with a favorable effect size r_{rb} = .90, in pretests, and the use of *present continuous* [t (14) = -2.40, p

<.05, 95% CI [-1.59, -0.016], with an effect of a medium size *Cohen's d* = 0.79, the use of the target structure *Can + Infinitive*, *V* (14) = 0, *p* <.05, with a unfavorable effect size r$_{rb}$ = .23, as well as FLU, *t* (14) = -2.28, *p* <.05, 95% CI [-0.83, -0.022], with an effect of a medium size *Cohen's d* = -0.51, in posttests.

Overall, the results of the statistical comparisons and ESs confirm that this instructional treatment did have a similar, statistically significant, and strong effect on most of the linguistic measures used to gauge chat and oral performance. This suggests that the SCM task-based instructional treatment effect on oral performance was relatively strong, as far as accuracy, fluency, and FLU are concerned. It also further supports the potential transferability of SCMC learning outcomes to F2F communication. Notably, however, the results (e.g., *SD*s) reveal great interindividual variation in participants' developmental patterns, highlighting that growth is a dynamic and individual process. Moreover, the gains made by participants on accuracy variables were far larger than those on fluency variables, suggesting that language learning development is also resource-dependent and limited at any point over time.

4.3 Language Learning Motivation and Task Perception

4.3.1 Language Motivation and Anxiety Questionnaire Analysis

All constructs of the language and motivation questionnaire were investigated for internal consistency using Cronbach's alpha before conducting further analysis. I followed the analysis presented by Oxford and Burry-Stock (1995) for the items associated with each construct. As Table 4 shows, after removing several items (i.e., one statement originally related to motivation intensity, one originally related to intrinsic motivation, one originally related to ideal L2 self, and one originally related to instrumental motivation), all subscales showed good internal consistency. After reviewing the statements which were removed, I noticed that their wording was problematic and thus, difficult for beginner learners.

Table 4

Internal reliability of language motivation and anxiety constructs

Construct	Number of items	Cronbach's alpha
1.Technology use	3	.712
2.Chat anxiety	3	.703
3.Anxiety	4	.712
4.Motivational intensity	3	.724
5.Intrinsic	3	.756
6.Ideal L2 Self	3	.801
7.Instrumental motivation	3	.707
8. International orientation	4	.716

4.3.2 Descriptive statistics and frequencies

As can be seen in Table 5, descriptive statistics on task motivation and task perception reveal scores towards the higher end, mostly "slightly agree" and "agree", of the Likert scale for most constructs, with intrinsic motivation, instrumental motivation, and international orientation showing the higher means. However, all of them show large individual variations. Anxiety and chat anxiety of this group were medium to low, whole technology use was relatively high. Also, task perceptions mean scores were medium to high, but a great degree of intraindividual variation is revealed by the min/max values.

Figure 11 displays the frequency of ratings on the same questions on task perception. As the bar sections to the right (agree and strongly agree) reveal, just over half of the participants (n =8) held the opinion that computer chat is more similar to writing than to speaking. Most of them (n = 13), though, perceived SCMC as a useful means for practicing English in both writing and speaking, but particularly for writing. Most (n = 13) also agreed that they had learned some English through the project, and they liked learning English more after this project (n = 12). Notably, almost all of them (n = 12) believed that conversing with an English native speaker would have been more effective for L2 development.

Perceptions comparisons between F2F communication and SCMC also revealed that most of them found chatting easier (*n* = 9) but F2F better for English language learning (*n* = 11). Finally, Figure 12 presents the frequency of ratings on the adjectives associated most with the project. Most pupils found the project useful (*n* =11) and important (*n* = 13), while over half (*n* = 8) rated it as exciting.
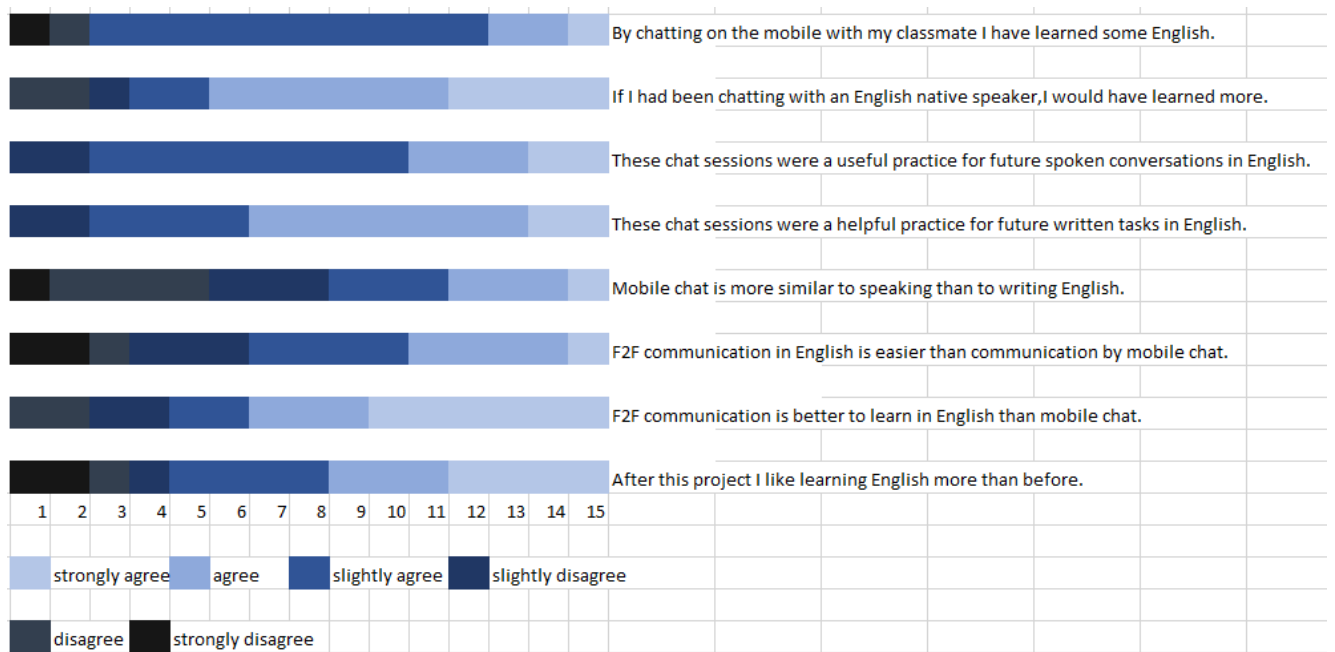
Table 5

Descriptive statistics on task motivation and task perception (1=strongly disagree – 6 = strongly agree) for all participants (n = 15)

| Score (number of items)	Min	Max	Mean	SD
Technology use (3)	2	6	4.04	1.54
Chat anxiety (3)	2	6	3.28	1.34
Anxiety (4)	2	6	3.36	1.28
Intensity (3)	2	6	4.33	1.22
Intrinsic (3)	2	6	4.62	1.31
Ideal L2 Self (3)	2	6	4.46	1.15
Instrumental (3)	2	6	4.62	1.13
International (4) Orientation	2	6	5.08	1.10
By chatting on the mobile with my classmate I have learned some English.	1	6	3.93	1.16
If I had been chatting with an English native speaker, I would have learned more.	2	6	4.73	1.16
These chat sessions were a useful practice For future spoken conversations in English.	3	6	4.20	0.94
These chat sessions were a helpful practice for future written tasks in English.	3	6	4.53	0.91
Mobile chat is more similar to speaking than to writing English.	1	6	3.46	1.50
F2F communication in English is easier than communication by mobile chat.	1	6	3.80	1.52
F2F communication is better to learn in English than mobile chat.	2	6	4.46	1.64
After this project I like learning English more than before.	1	6	4.13	1.72

Figure 11

Frequency of rating on task perception questionnaire for all participants (N = 15)

Figure 12

Frequency of rating on adjectives associated most with the project (N=15)
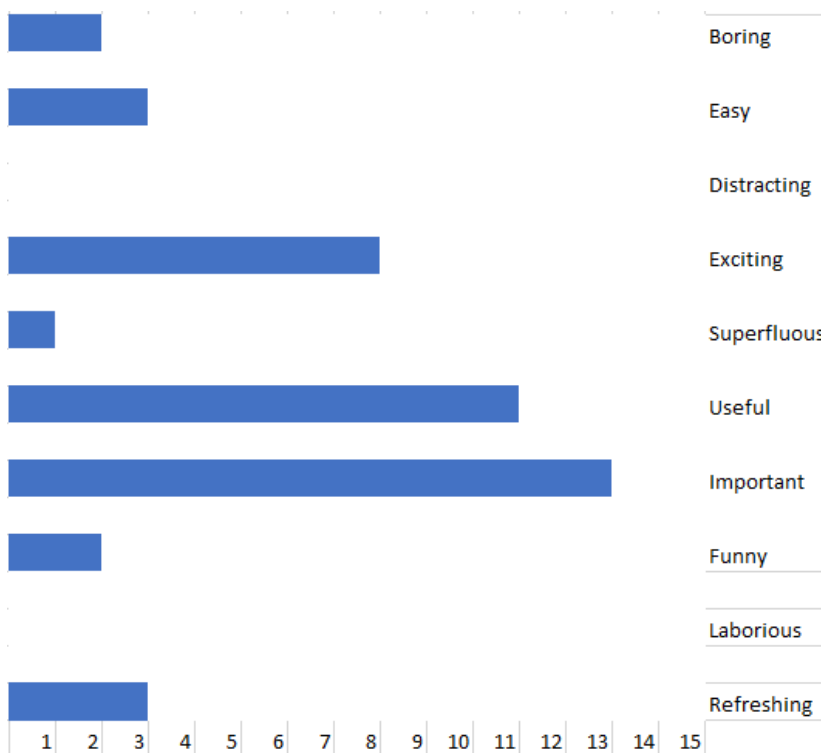
4.3.3 Correlation Matrix Analyses

Two correlation matrices based on ranks were performed to explore how the constructs are related to each other. Table 6 presents the correlations of the language learning motivation constructs, language output anxiety, chat anxiety, and technology use. Table 7 displays the associations between the previously mentioned constructs and task perception statements.

Table 6

Spearman correlations of different aspects of language learning motivation (N = 15)

Construct	1	2	3	4	5	6	7	8
1.Technology use	-	-.304	.192	.392	.356	.665**	.623*	.597*
2.Chat anxiety		-	.453	.112	.224	-.394	-.043	-.245
3.Anxiety			-	.324	.378	-.109	.113	.078
4.Intensity				-	.676**	.425	.354	.569*
5.Intrinsic					-	.332	.087	.367
6.Ideal L2 Self						-	.612*	.759**
7.Instrumental motivation							-	.645*
8. International orientation								-

Note: * =significant at p < 0.05; ** significant at p < 0.01

The first analysis showed that the construct of ideal L2 self was positively correlated with the instrumental motivation ($r = 0.61$, $p < .05$, 95% CI [0.14, 0.85]), and international orientation constructs ($r = 0.76$, $p < .01$, 95% CI [0.39, 0.91]), suggesting that those students who exhibit clear motivational behaviors may develop a more competent ideal L2 self. Moreover, motivational intensity was significantly positively related to the intrinsic motivation ($r = 0.68$, $p < .01$, 95% CI [0.24, 0.88]), and to international orientation ($r = 0.57$, $p < .05$, 95% CI [0.06, 0.83]), while international orientation was significantly positively related to the instrumental motivation ($r = 0.65$, $p < .05$, 95% CI [0.19, 0.87]) as well. All together reveal the highly complex network of associations between effort, motivation, and orientation.

As far the specific SCMC context is concerned, participants' answers regarding the technology use were significantly positively related to the ideal L2 self ($r = 0.67$, $p < .01$, 95% CI [0.22, 0.88]), to the instrumental motivation ($r = 0.62$, $p < .05$, 95% CI [0.16, 0.86]), and to the international orientation ($r = 0.60$, $p < .05$, 95% CI [0.11, 0.85]), suggesting that those who have international and career ambitions might see technology as a tool to achieve them. On the other hand, the absence of a relationship between chat anxiety and anxiety suggests that those constructs are different and are not related, which can occur independently of one another.

Table 7

Spearman correlations of language learning motivation and chat task perception questionnaire (N = 15)

	By chatting on the mobile with my classmate I have learned some English.	If I had been chatting with an English native speaker, I would have learned more.	These chat sessions were a useful practice for future spoken conversations in English.	These chat sessions were a helpful practice for future written tasks in English.	Mobile chat is more similar to speaking than to writing English.	F2F communication in English is easier than communication by mobile chat.	F2F communication is better to learn in English than mobile chat.	After this project I like learning English more than before.
Technology use	-.045	-.209	.498	.213	.435	.098	-.132	-.135
Chat anxiety	.224	-.013	.378	.267	.023	-.024	.312	.314
Anxiety	.178	-.289	.098	.153	.167	.278	.189	.187
Intensity	.178	.089	.523*	.576*	.023	.134	.108	.107
Intrinsic	.289	-.145	.590*	.554*	.064	-.067	-.098	-.097
Ideal L2 self	-.387	.078	.486	.264	.029	.078	.023	.021
Instrumental	-.198	-.065	.554*	.264	.213	.454	.342	.344
International Orientation	-.444	.183	.552*	.332	-.051	.154	.213	.214

Note: * =significant at p < 0.05; ** significant at p < 0.01

Furthermore, the second correlation matrix analysis revealed some interesting findings regarding the relationships between task perception and the motivational constructs. The strong and significant relationships between motivational intensity and intrinsic motivation on the one hand and the appreciation of the chat tasks as a helpful practice for future written tasks [($r = 0.58$, $p < .05$, 95% CI [0.09, 0.84], $r = 0.55$, $p < .05$, 95% CI [0.05, 0.83]

accordingly)] and spoken conversations in English on the other [($r = 0.52$, $p < .05$, 95% CI [0.02, 0.82], $r = 0.59$, $p < .05$, 95% CI [0.10, 0.84] respectively)], could be seen as support for the use of SCMC in class. Particularly, for those who are motivated to put some effort in learning English.

Additionally, the strong positive relationship between a positive task perception of the chat tasks as a helpful practice for future spoken conversation in English with instrumental motivation ($r = 0.55$, $p < .05$, 95% CI [0.05, 0.83]) and international orientation ($r = 0.55$, $p < .05$, 95% CI [0.05, 0.83]), might suggest that those who have set clear objectives and are internationally oriented, appreciate more the technology-mediated instructional treatments which perceive as useful for achieving their objectives. Finally, the absence of significant associations between the statements that pupils felt they had learned some English from it and after this project they liked learning English more than before on the one side, and any task motivation and anxiety construct on the other one, suggests that eventual gains of L2 SCMC can occur irrespective of learners' motivation and anxiety.

4.3.4 Focus Group Interview

Five participants took part in a semi-structured focus group interview directly after their posttests' performance. Questions targeted the effect of chatting on language anxiety as well as the use of SCMC in the classroom. Figures 13a and 13b below display two excerpts from the interview (see Appendix H1 for the transcript of the interview).

As it is shown in Excerpt 1, most of the interviewees thought that SCMC is less confronting and provides them with more time to think than spoken interaction, reducing pressure and thus, anxiety. They also agreed that the SCMC environment allows them to search for the appropriate English vocabulary on the Internet and use it in their subsequent production. However, right in line with the data of the language anxiety and motivation questionnaire, there was an interindividual variation in their responses. For instance, S5

mentioned that spoken interaction causes less anxiety than chat interaction, owing to the facilitative role of non-verbal communication.

Figure 13a

First excerpt of the focus group interview

Excerpt 1

    R: *Do you feel less anxious when you chat or when you speak in English?*

    S1: In my opinion yes, when you chat, you don't need to see the other person, you have more time to answer, to think.

    S2: When I am chatting, I can use Google translate if I don't know a word, and if I don't want to make a mistake, I have time to speak, when I am typing.

    S3: Chatting is less stressful, because is not difficult to type, and I do not really speak English, so when you chat you can search words on the internet and you can think which word fits better, you have the time to do it.

    S4: Yes, I agree, chatting is less stressful.

    S5: My opinion is that speaking is less stressful, when you speak you can use your hands and your expressions and the other person can help you find the words if you miss them, I prefer speaking and I feel less anxious when I have to speak in English.

In Excerpt 2, the interviewees discuss whether they prefer speaking or chatting in English. All of them but one, like spoken interaction more than chatting. Interestingly, the underlying reasons for this preference are different. Interviewees 1 and 3 indicate that they perceive chatting as easier, but they like spoken interaction better as they would like to improve their speaking skills. On the other hand, interviewee 3 prefers speaking for opposite reasons. For her, spelling becomes a barrier that hinders effective communication.

Figure 13b

Second excerpt of the focus group interview

```
Excerpt 2

        R: Do you prefer speaking or chatting practice in English?

        S1: Speaking, I would like to learn to speak better. Chatting is easier, but I
prefer speaking.

        S2: Same, chatting is easier, but I need to speak, I am good when I write but I
am not when I speak.

        S3: I prefer to speak, spelling is difficult.

        S4: Speaking for sure.

        S5: Chatting because I feel less stressed.
```

4.3.5 Teacher Interview

The teacher participated in a structured interview one day after the end of the project. Questions mainly targeted her perceptions about the use of SCMC practice in the classroom and the usefulness of chatting for oral language performance as well as language anxiety. Two indicative excerpts from the interview are displayed below in Figures 14a and 14b (see Appendix H2 for the transcript of the interview).

Excerpt 1 shows that the teacher believes that the SCMC environment allows students to think more thoroughly than spoken interaction, and it reduces time pressure. As such, it motivates them and builds their confidence, resulting in more and better learning. She also thinks that the specific technology-mediated task-based project boosted their speaking skills, owing to its clear structure and fruitful blending of theory and technology.

Figure 14a

First excerpt of the teacher's interview

Excerpt 1

R: *Do you think chat interaction helps students to learn something? Does it boost speaking skills?*

T: Yes, I do. I think it gave them some time to think, like when you start a speaking task, you immediately you have to start speaking, this gave them some time to think and to implement the new vocabulary they learned. I do think it motivated them and motivation always helps learning. I do think it boosts speaking skills, but I will do that in the next few weeks do some follow-up exercises, like we will have a look at a video, then the vocabulary task with the PowerPoint, the advanced learners, a good example how the task could be performed, and then the chat task based on the video and then to really like master it, they should have, it should have followed up with some new speaking tasks in which they have to implement the same kind of language. But I will do that the next few weeks. So yeah, I do think it boosts speaking skills (…) Also, I did see it builds their confidence, especially for the weaker learners. The whole task, the structure of the tasks and chatting itself I think it boosts their confidence to actually speak. Yes, it gives them tools to speak more, to speak better.

In excerpt 2, the teacher confirms that she considers chatting as an innovative and effective medium for teaching and learning. She also expresses her justified concerns regarding the implementation of such innovations in the classroom. She refers to the limited time and additional energy needed at her end. Overall, though, she shows clear intention and willingness to use SCMC in her classroom, indicating her positive attitude towards such projects.

Figure 14b

Second excerpt of the teacher's interview

Excerpt 2

R: *Would you use chatting as a teaching tool?*

T: I like it. I would have to put in some time to figure out what you did, like how they can send me the chat history. I loved the video tutorials in both English and Arabic by the way. They appreciated that, you tried to use their native language. Yes, I do, I was thinking I could design something like this for next year, same kind of tasks. (…) You could also not use a transcript but just practice, do it in a less formal way. Do a chat task first and then a speaking task, maybe I can even try next week, to see how it works out if I give them a picture to describe it via chat, followed by a speaking task. I do like it, but I have to be honest as a teacher, as you have already noticed I think, I am always short of time.

5. Discussion

This chapter presents an in-depth analysis of research findings introduced in the previous chapter regarding each of the research questions. The results of the study are also reviewed in relation to the research findings mentioned in the background section.

5.1 Chat Task Practice for Improving L2 learners' Speaking Skills

The first aim of this study was to explore whether chat practice indirectly improves the L2 speaking skills of a group of refugee learners. Overall, the results of this study confirmed the hypotheses, indicating that SCMC is good preparation for F2F interactions. The findings were also consistent with previous findings (e.g., Beauvois, 1995; Kern, 1995; Warschauer, 1996; Blake, 2000), showing that students who performed a series of increasing complexity chat tasks produced more fluent, accurate, and meaningful language during follow-up oral interactions. However, in addition, that on average the gains made in the chat condition did transfer to oral exchanges, some unexpected findings were observed. This study was followed by a follow-up focus group interview to examine the causes of these findings. The following subsections interpret the results of the analyses for the various linguistic measures separately

(i.e., fluency, general accuracy, task-specific accuracy, FLU) and discuss the implications for further research.

5.1.1 Fluency

For determining the chat fluency gains, the total numbers of clauses and words were calculated. Although according to raw numbers, the participants produced a greater amount of speech in terms of words and clauses, the differences were statistically significant only for the total number of clauses. A possible explanation may be related to the participants' improved ability to form grammatically correct sentences after the SCMC instructional treatment. In specific, while the participants produced enough words -in reference to their proficiency level- in both pretest and posttest tasks, the use of words in context as well as the word order in the pretest chat task was mostly incorrect. Therefore, the degree of grammatical organization of these groups of words was insufficient to form accurate clauses, leading to a significantly low total number of clauses in pretest chat logs.

Simply put, the chat fluency gains mostly reflected the improvement of linguistic accuracy after chat task practice, which indicates that linguistic subsystems may develop asymmetrically across the developmental trajectory (Spoelman & Verspoor, 2010). According to Penris and Verspoor (2017), a linguistic variable may have to reach a minimum threshold for another to develop. Thus, looking at the interactions between fluency and accuracy in this context, it could be supported that linguistic accuracy is a *conditional grower* for fluency.

On the other hand, in order to track the oral fluency gains, the speaking rate and the average length of pauses were measured. The speaking fluency gains in the participants' speech were mostly reflected in the significantly reduced length of pauses in the posttest oral exchanges. While the participants spoke only slightly faster after the SCMC treatment, they achieved a great reduction in hesitation while speaking in English. An explanation for the reduced length of pausing may be related to the chat task practice effect on affective factors,

such as self-confidence (e.g., Chun, 1994; Darhower, 2002). According to the frequency results on the task perception questionnaire, most of the students agreed that they learned some English by chatting and that it was useful practice for future spoken conversations. The SCMC environment, thus, helped overcome the fear of failure and negative judgments about their skills, boosting their motivation to speak and perform challenging tasks. Together, it could be claimed that because they had a sense of accomplishment, they tried harder, and gained confidence, which helped in decreasing hesitations when speaking, breaking the vicious circle of helplessness as explained by Compton (2002).

As far as the non-significant effect on the speaking rate is concerned, it may be associated with the participants' effort to produce accurate sentences. Many research findings (e.g., Sample & Michel, 2014) examining CAF found trade-off effects, in which a greater performance in one linguistic component reflects in lower performance in another component during tasks. Trade-off effects are observed due to a limited maximum carrying capacity for a system at any given moment over time (van Geert, 1994) and learners' inability to simultaneously attend to all CAF components at the highest level possible (Skehan, 2009). Future work could look into correlating the interacting variables to examine further this area.

Overall, at a face value, the fluency gains made in the two conditions were similar, which provides further support for the transferability of skills between the two modes. Moreover, the results on fluency measures highlighted the treatment's salient effect on general and task-specific accuracy. Although fluency gains were found, the participants partially sacrificed fluency over accuracy in both conditions. A potentially interesting future area of investigation could be the examination of L2 oral development in relation to a different SCM task treatment. An instructional design that includes an alternate manipulation of task features or even the incorporation of different task types. It might also be fruitful for future work to compare the linguistic performance of L2 learners who carry out different

series of chat tasks, as those presented in a previous section (see Material in the Method of the current study). Based on literature (e.g., Robinson, 2001, 2005, 2007; Ellis, 2003; Robinson & Gilabert, 2007), task design has the potential to make substantial differences in terms of learning outcomes.

5.1.2 Accuracy

To gauge general accuracy of use in both chat logs and oral speech, degrees of errors were used to weigh the severity of an error in terms of communicative adequacy (Foster & Wigglesworth, 2016; Kuiken & Vedder, 2008). Then, a total ratio of errors per 50 words was calculated per speaker in each SCMC and F2F transcript. The results for these comparisons of means before and after the treatment indicated that the gains made by participants regarding this linguistic feature were strong and significant in both conditions. Moreover, the percentage of improvement was surprisingly similar (i.e., no statistically significant differences observed between conditions), indicating that chat practice does promote accuracy in oral speech. These findings are in line with previous work (e.g., Moayeri & Khodareza, 2019), which highlighted the efficacy of SCMC practice on learner's oral accuracy enhancement. After the chat task treatment, the participants reduced to half the total ratio of errors in both conditions and did not make the mistakes that made their utterances quite difficult to understand in pretest tasks.

However, although on average the accuracy level was enhanced, the total number of minor mistakes in oral narratives, such as omitted articles, were found to be increased after chat task practice. The reason for this may be related to the nature of the oral discussion environment. The immediacy of face-to-face communication does not allow the speaker to properly pre-plan the message, leading to the occurrence of careless mistakes, particularly for low-level L2 learners (Yuan & Ellis, 2006; Chapelle, 2009). Conveying meaning demanded great cognitive effort by participants, who allocated all their attentional resources to avoid

severe mistakes, increasing the likelihood of minor ones. On the contrary, the chat

environment provided learners the time to frame their ideas and modify their output before

hitting the *enter* key, minimizing the risk of making mistakes (Beauvois, 1998; Kern, 1995;

Satar & Özdener, 2008; Michel, 2018). In the future, a thorough analysis of chat interactions

to identify form-focused modifications, as well as an examination of the relationship between

form-focused modifications and response time could shed more light on the area.

5.1.3 Accurate Use of Target Structures

Confirming the study hypothesis, the accurate use of the target structures displayed a

greater degree of development. As predicted, the production of those linguistic structures was

elicited by the chat narrative tasks during the SCMC intervention period (see Figure 15), and

it is likely that this usage was transferred to posttest oral exchanges. Overall, numbers were

high, since most of the participants employed at least once, two of the target structures in their

posttest chat and oral task interactions. However, the standard deviations also revealed

substantial individual differences. For instance, some students used only once one model

structure while others used all three more than two instances. The target structure groups

differed such that the *can + infinitive* and *present continuous* group demonstrated a

substantial and significant increase in both chat and oral conditions, and the *there is/ are*

group a slight and non-significant growth in all conditions. Crucially, the statistically

significant mean differences observed in the use of these target structures between posttest

oral and chat tasks do not seem to affect in any way the overall impressive gains in both

conditions.

Figure 15

Example of chat log for treatment task 1

R: In the picture I can see a man walking through the door

A: Yes, in the next picture, I kan see some people in the swimming pool

R: 😊There are two diving boards

A: Yes, and now he is climbing up the stairs in diving area

R: Right, he is stands on the boards but he is feeling shocked

A: I see two boys are thinking

R: Haha the man is hanging from the boards

A: He jumped into the water and now puts his hand on his face

R: He is feeling shocked

A: Because his pants floating on the water 😂 😂 😂

It is likely that the major findings in task-specific accuracy are related to the choice of target structures. I followed the Cognition hypothesis guidelines for ideal practice tasks as well as the sequencing principles of the taxonomic Triadic Componential Framework presented by Robinson (2001, 2005) and designed material that allowed meaningful peer interaction. Tasks were aligned with the curriculum and needs of the students, and target structures were expected to be known for their final oral exams. The focus on the target structures was implemented implicitly, through pre-task activities, and no explicit instruction of the target structures was provided. Students were encouraged to use the models, and chat logs demonstrated that they did so.

However, they showed a stronger preference for the *can + infinitive* and *present continuous* forms, in comparison to *there is/are* structure. These structures could be used interchangeably for picture description, and it is not essential the simultaneous use of all three for task completion. Presumably, this choice was not only based on personal preferences but also task features (Loschky & Bley-Vroman, 1993). The former structures seemed to be more naturally elicited in the narrative task performance and helped the discourse flow.

5.1.4 Functional Use of language

Following the suggestions by Abrams (2003), I also employed a holistic scale to assess SCMC's impact on L2 functional use of output. This study is one of the first to evaluate participants' products beyond CAF measures, exploring alternate ways of interpreting SCMC benefits on L2 growth. Overall, although the scores in the holistic scale were low to medium in both conditions, the participants' improvement after the SCMC instructional treatment was impressive, particularly in oral exchanges. Interestingly, significance was only found only on FLU in the oral condition when comparing the mean scores before and after the instructional treatment. The difference in means was also significant between postoral and postchat task performance. This could be explained by tapping into the post-performance questionnaire data as well as the focus group interviews. The majority of students perceived oral communication as better to learn English than mobile chat, and they explicitly stated their preference for face-to-face interaction. Recognizing the established finding of other studies (e.g., Gardner, 1985; Dörnyei, 2003) that there is a positive correlation between motivation and performance, it is assumed that the students devoted a greater amount of cognitive effort while speaking, which led to higher performance in terms of structure and task fulfillment.

The large effect size also indicated that the chat task-based practice did have a substantial influence on oral improvement concerning overall coherence and task fulfillment. To fulfill the task, the language output needed to include the description of the main elements that appear on the pictures, and the narration of what happens should also be clear. After the chat task-based practice, the participants were able to orally deliver their ideas in a way that made listeners understand, even if the description of some pictures was sometimes incomplete, and the narration of the story hard to follow. Altogether, the current study revealed that not only the amount of output increased with the use of SCMC but also the

quality of output, as measured by the holistic scale, was substantially improved after chat task-based treatment.

To sum up, it seems that even though the participants were not interacting via oral interaction during the instructional treatment, they were indeed engaging in a form of real-time communication using WhatsApp mobile messenger. This interactive process required effective access to the lexicon, as presented in Levelt's (1989, 1993) model of language production, resulting eventually in the development of oral proficiency. This study results suggest that SCMC practice develops the same cognitive processes underlying task-based oral communication. These findings are consistent with other studies to examine the growth of speaking skills in a chat environment (e.g., Payne & Whitney, 2002; Blake, 2009), confirming that chat practice could be a useful stepstone for L2 oral development.

Moreover, beyond the theoretical framework presented in the literature review, there are several explanations for the strong gains in oral skills of all students, not only as a group but also at an individual level. One explanation is that all participants had a greater opportunity to practice the English language since they produced output simultaneously during the chat sessions. Typically, during oral class discussions, only a handful of students take a turn, and all the others wait and passively listen. Such a course structure inevitably results in limited participation, which might lead to reduced interest, and performance (Payne & Ross, 2005; Blake, 2009). On the contrary, these chat interactions extended the degree to which the English language was practiced in the classroom, and the increased amount of output was beneficial for the participants' linguistic development (Chapelle, 2009).

Another explanation may relate to the characteristics of a chat environment as already discussed by scholars (e.g., Kelm, 1992; Chun, 1994; Warschauer, 1996; Darhower, 2002; Abrams, 2003; Blake, 2009) and stated by both students and teacher in the follow-up interviews. The participants were provided with ample time to think about what they are

going to say, generate sentences, and notice possible mistakes. Moreover, even though chat interactions were considered, to a certain extent, similar to oral mode, were also perceived as easier and less stressful than spoken exchanges, suggesting that students reduced their inhibitions that hinder oral communication. Therefore, in comparison to oral discussion environments, chat interaction promoted successful uptake and thus performance, by reducing time pressure and expanding the opportunities for focus on language forms. The current data are also consistent with earlier findings that relate SCMC to enhanced noticing and form-focused performance (e.g., Smith 2005; Sauro 2009; Michel, 2018).

A third explanation may be associated with the specific design of the instructional treatment. According to the Cognition hypothesis, the repetitive exposure to increasing difficulty tasks with similar features allows for cumulative learning and enhances the automatic access to current interlanguage (Robinson, 2001). To conclude, all these aspects together created in many ways an optimal environment for L2 development, which in turn led to more fluent, accurate, and functional use of spoken language. Future research could also employ a delayed posttest to measure retained learning gains.

5.2 Language Learning Motivation, Anxiety and Task Perception

The second purpose of this study was to investigate participants' - students' and teacher- perceptions regarding the use of SCMC in the classroom. As such, it is one of the few studies (e.g., Satar & Özdener, 2008; Baralt & Gurzynski-Weiss, 2011; Gurzynski-Weiss & Baralt, 2014; Michel, 2018) that assesses language learning motivation and anxiety in relation to task perception, filling the gap as stated by Ziegler (2016). Overall, the results for the absolute scores revealed that the participants in the current study showed medium to low anxiety, medium to high motivation, and relatively high appreciation of the chat task project. Interestingly, while most participants in the follow-up interview stated that chatting in English causes less anxiety than speaking, their data from the SCMC task perception questionnaire did

not correlate either with chat anxiety or output anxiety, suggesting that anxiety did not play any direct role in their appreciation of the SCMC project. The questionnaire data were also inconsistent with previous work by Michel (2018) that related output anxiety with a greater SCMC appreciation.

A possible explanation of why a more positive attitude regarding the SCMC project did not correlate with the amount of output anxiety may be the following. The questionnaire data displayed that learners, on average, were familiar with technology use and chatting online; the learners themselves also explicitly stated that chatting is easier than speaking, and causes less anxiety; however, one assumes that this usage has always been under their own terms, meaning the safety of their own house, under different circumstances (i.e., non-formal instructional conditions) and with different purposes on the mind (e.g., socialize online through chat exchanges). It could very well be the case that the novelty of having to interact in English via SCMC for formal instruction as well as study purposes led to the absence of significant associations (Baralt & Gurzynski-Weiss, 2011; Gurzynski-Weiss & Baralt, 2014). Future studies could utilize additional methods such as stimulated recall to triangulate data and provide additional insight into the discrepancy between the free responses in the follow-up interview and the correlation data regarding anxiety and chat practice.

Another interesting result was that participants perceived the tasks to be a useful practice for both written tasks and oral communication, providing further support for the theoretical characterization of SCMC as a unique type of register, a hybrid in between written and oral mode (Pellettieri, 2000). It was also interesting to observe that the majority of the students believed that they would have learned more if they chatted with a native speaker, indicating that NSs are preferred for SCMC, particularly for less anxious students as those who participated in this study (Dussias, 2006; Satar & Özdener, 2008). Presumably, chatting with them might make them gain more linguistic skills through increased strategic alignment

(Costa, Sorace, & Pickering, 2008). Future work, as already proposed by Michel (2018), should explore language learning motivation, anxiety, and task perceptions, as well as learning gains of interactions between NS and NNS in an SCMC environment.

Additionally, it is remarkable that thirteen out of fifteen students in the current study agreed that they had learned something from the chat tasks, and all of them stated that SCMC was useful for practice for future oral and written interaction. It is also worth noting that while the former statement did not correlate with any of the motivational constructs, the two later statements did correlate with several of them. On the one hand, the absence of significant associations between and motivational constructs suggest that perceived learning might not be mediated by motivation (Michel, 2018). On the other hand, the strong and significant correlations between the usefulness of the project for future interactions and four out of five motivational constructs may indicate that the students who are motivated to learn, and are career as well as internationally oriented, appreciate more the technology-mediated tasks which evaluate as useful for achieving their goals. It would be interesting for future work to collect additional individual difference data of participants and see how different mindsets, orientations, and preferences could relate to chat task perception (Baralt & Gurzynski-Weiss, 2011). Asking which instructional treatment is most appropriate for certain individual differences is a practical and useful line of questioning.

Finally, qualitative data emerged from the characterizations of chatting on task perception questionnaire, and the follow-up interviews indicate that pupils, and the teacher, had mainly positive comments about SCMC use in the classroom. Most learners found the project useful (n =11) and important (n = 13), while only two of them found it boring. Crucially, the teacher also considered chatting practice as an innovative and effective tool for teaching and learning, which boosts speaking skills and builds confidence. Overall, the data of

the current study revealed that the adolescent L2 learners, as well as their teacher, hold positive attitudes towards the use of SCMC in their classroom.

5.3 Practical Implications

One implication of the current study is that speaking skills could be improved even if interactants are in distance and they are not always using the oral medium. Although the beneficial use of SCMC may be highly dependent on effective instructional design, learners are still encouraged to chat in their L2. Crucially, teachers could exploit SCMC as a teaching medium in the classroom to ameliorate all students' oral competence at the same time. Under the instructor's guidance, it could also be effectively used as language practice among students in and out of the classroom.

Tapping into the task perception data and follow-up interviews, another implication is that, unlike the teacher, students continue to be sceptical about the beneficial effects of chatting particularly on speaking skills. Only a few of them strongly agreed that chat practice is useful for future spoken interactions. This suggests that teachers could provide their students with evidence that supports the use of chat for oral development.

However, one should not assume that an apprehensive attitude is the only reason for this finding. In general, tasks designed for any modality might differentially address the needs and preferences of certain students, taking into account the learners' individual differences, such as proficiency levels, anxiety, motivation, learning styles, and personality types (Baralt & Gurzynski-Weiss, 2011). According to Gurzynski-Weiss and Baralt (2014), shy learners may benefit from SCMC because of the greater social distance and the increased processing time the mode provides, whereas the more accuracy-oriented learners may find SCMC more anxiety-provoking. At the same time, learners who enjoy social intimacy and are more confident may enjoy more F2F tasks. Thus, any pedagogical decisions should meet learners' traits and accommodate their needs.

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5.4 Limitations

Although the current study has reached its aims, there were some unavoidable limitations. Because of a time limit, Covid-19 challenges, and availability issues, this project was implemented only with a small number of participants, and no control group was used. Such methodological issues limit our ability for drawing conclusions. For future studies, I suggest that researchers should include more participants and employ a control group to increase the generalizability as well as the validity of the findings. Second, the fact that the instructional treatment was implemented by the researcher, might affect students' performance and overall behavior. To improve ecological validity, it is suggested for FL teachers to implement any future experiments in the regular classroom. Third, the absence of a delayed posttest does not allow us to evaluate any long-term effects of chat practice on oral development. Future work should include a delayed posttest in the design in order to measure retained knowledge.

Moreover, certain design features of the narrative task restrict the generalizability of the effects to other task types. The fact that the task did not require a great amount of interaction among peers might have influenced the participants' motivation to perform it and thus their perceptions about SCMC use in the classroom. Narrative tasks do not create a need to communicate with classmates, since no necessary information is missing to complete the task. It would be interesting for future work, to implement the same sequencing decisions using a different task type (e.g., information-gap tasks) and explore whether it impacts students' perceptions regarding chat practice.

Also, the present study only used questionnaires and short interviews to gain insight into learners' perceptions regarding SCMC use in the classroom. An introspective methodology that gives insight into learner ongoing thought processes, such as think-aloud protocols or stimulated recall, could help us understand how the SCMC affects what and how

learners notice, and how anxiety affects this process from the learner's perspective (Sheen, 2008; Baralt & Gurzynski-Weiss, 2011).

6. Conclusion

The present study investigated whether SCMC practice through a series of interactive narrative tasks can influence L2 oral development by transferring skills across modalities. It also explored the relationship between language learning motivation, anxiety, and SCMC task perceptions, and aimed to answer the following research questions:

1) How does chat interactive practice affect L2 oral performance?

2) What is the relationship between the participants' language motivation, anxiety, and SCMC task perception?

Although the sample size is too small and some other limitations previously described restrict our ability to draw solid conclusions, the findings of the present study indicate that text-based SCMC can be an effective aid to improve oral skills. When guided with theoretically informed language learning tasks it can be a helpful teaching tool, either for additional practice (e.g., when there is insufficient class time to practice speaking), or as part of an online course. This project provides evidence that a direct transfer of language experiences across modalities does occur. The current findings are consistent with Levelt's (1989, 1993) model of speech production, which suggests that the cognitive mechanisms that apply to oral interaction are very likely also used in chat production.

Moreover, this study shed some light on students' perceptions regarding the use of chat in the FL classroom. SCMC was seen as a safe, engaging, and motivating learning environment for L2 practice. However, it is important to mention that the use of SCMC should be carefully considered in relation to divergent groups of learners and their preferences. Future investigations on individual variables in relation to various language learning tasks employed in SCMC would give interesting results and guide future practices.

To conclude, this project confirms previous findings (e.g., Beauvois, 1998; Kern, 1995; Compton, 2002; Abrams, 2003; Satar & Özdener, 2008Blake, 2009; Gurzynski-Weiss & Baralt, 2014; Michel, 2018) and highlights: Written SCMC is useful practice for oral development, is seen as a tool for interaction in its own right and is valued by both learners and teachers. As such, it creates a potentially favorable environment for L2 practice and development.

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Pretest and posttest tasks

Oral picture-narrative task in pairs

You and your partner each have 6 frames/pictures.
These pictures together tell a story.
Each picture has a number. This number indicates the order of the pictures.
Look at your pictures carefully and take a few moments (1min) to think before you start discussing with your partner.
Tell the picture story together with your partner!
Try your best, describe the details, and tell the story! You have 10 minutes!
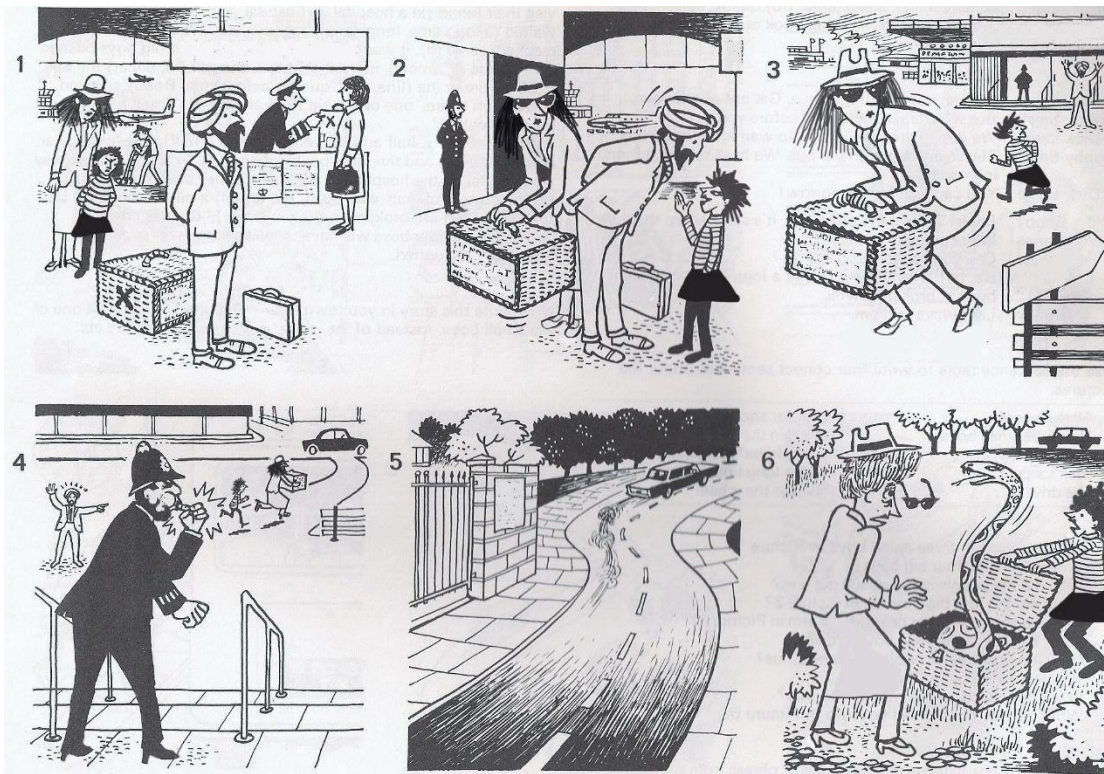
* The surprise story by Heaton (1975) (edited version)

Chat picture-narrative task in pairs

You and your partner each have 6 frames/pictures.
These pictures together tell a story.
Each picture has a number. This number indicates the order of the pictures.
Look at your pictures carefully and take a few moments (1min) to think before you start chatting with your partner. Read the useful words and phrases!
Chat and tell the picture story together with your partner!
Try your best, describe the details, and tell the story! You have 10 minutes!
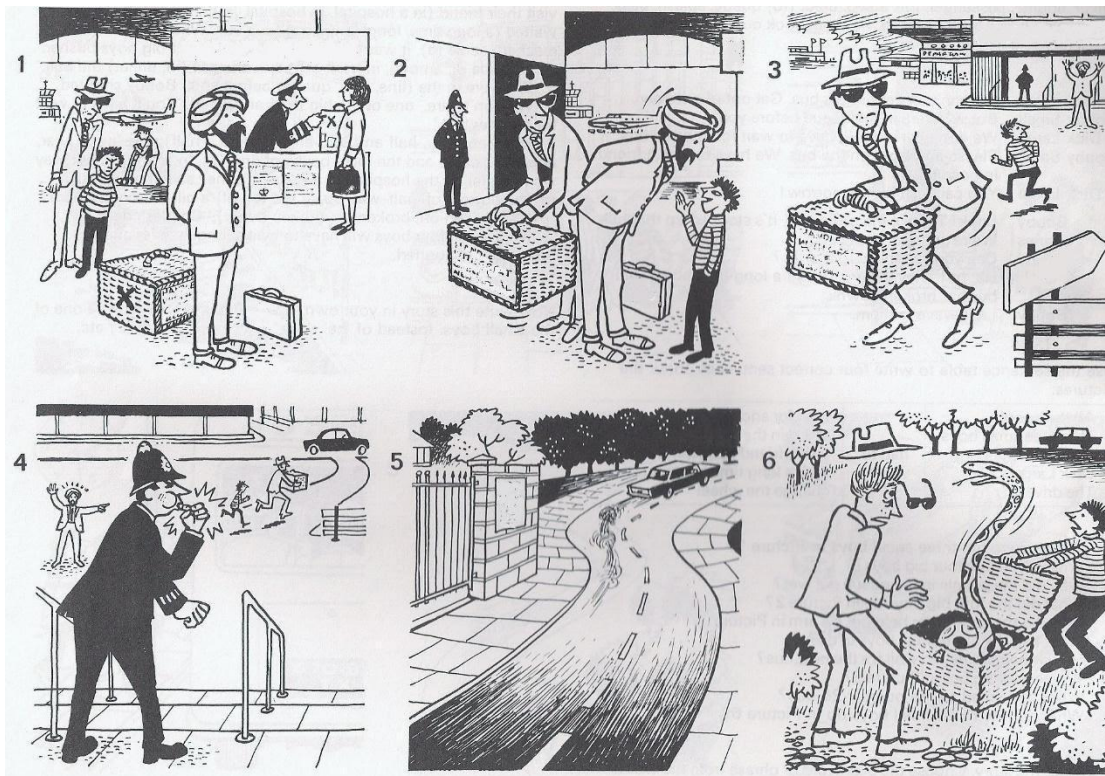
* The surprise story by Heaton (1975) (original version)

Treatment tasks

Task 1

You and your partner each have 10 frames/pictures.

These pictures together tell a story of Mr. Bean.

Each picture has a number. This number indicates the order of the pictures.

Look at your pictures carefully and take a few moments (3min) to think before you start chatting with your partner. Read the useful words and phrases!

Chat with your partner, describe the pictures in the right order, use the useful words and phrases! Try to understand the story!

You will describe all that you can see in the picture (the place, the people and the objects) and explain what you think is happening and how the people are feeling: **What is in the picture**? **Where** in the picture? **What is happening** in the picture?

Try your best, describe the details, and tell the story! You have 10 minutes!

9 10

Useful words and phrases for description of pictures:

What is in the picture?
In the picture I can see ...
There is / There are ...
There isn't a ...

Say what is happening with the present continuous
The man/woman is ...ing

Where in the picture?
At the top/bottom of the picture ...
In the middle of the picture ...
On the left/right of the picture ...
next to
in front of
behind
near
on top of
under

If something isn't clear
It looks like a ...
Maybe it's a ...

Examples of linking words
…because…, and, then, after that, before, but

How to ask if you don't understand

I am sorry, I didn't understand. Is the man/woman …ing?/are the people ..ing?
What do you mean by …? Maybe you want to say….?
Could you please repeat?

Task 2

You and your partner each have 14 frames/pictures.

These pictures together (14 frames) tell a story of Mr. Bean.

Each picture has a number. This number indicates the order of the pictures.

Look at your pictures carefully and take a few moments (4min) to think before you start chatting with your partner. Read the useful words and phrases!

Chat with your partner, describe the pictures in the right order, use the useful words and phrases! Help each other and try to understand the story!

You will describe all that you can see in the picture (the place, the people and the objects) and explain what you think is happening: **What is in the picture**? **Where** in the picture? **What is happening** in the picture?

Try your best, describe the details, and tell the story! You have 10 minutes! Use all the time you are given!
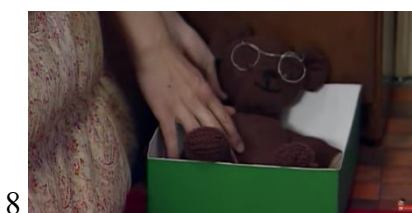
Generally useful words and phrases for description of pictures:

What is in the picture?

In the picture I can see ...

There is / There are ...

The man/woman has got…

There isn't a ...

Say what is happening with the present continuous

The man/woman is ...ing

Where in the picture?

At the top/bottom of the picture ...

In the middle of the picture ...

On the left/right of the picture ...

next to

in front of

behind

near

on top of

under

If something isn't clear

It looks like a ...

Maybe it's a ...

Examples of linking words

…because…, and, then, after that, before, but

How to ask if you don't understand

I am sorry, I didn't understand. Is the man/woman …ing?/are the people ..ing?

What do you mean by …? Maybe you want to say….?

Could you please repeat?

Task 3

You and your partner each have 16 frames/pictures.

These pictures together tell another funny story of Mr. Bean.

Each picture has a number. This number indicates the order of the pictures.

Look at your pictures carefully and take a few moments (2min) to think before you start chatting your partner. Read the useful words and phrases!

Chat with your partner, describe the pictures in the right order, use the useful words and phrases! Try to understand the story!

You will describe all that you can see in the picture (the place, the people and the objects) and explain what you think is happening, how the people are feeling and why the people are doing this: **What is in the picture**? **Where** in the picture? **What is happening** in the picture? **How are the people feeling**? **Why are they doing this**?

Try your best, describe the details, and tell the story! You have 10 minutes!

Useful words and phrases for description of pictures:

What is in the picture?

     In the picture I can see ...

     There is / There are ...

     The man/woman has got…

     There isn't a ...

Say what is happening with the present continuous

     The man/woman is ...ing

Where in the picture?

     At the top/bottom of the picture ...

     In the middle of the picture ...

     On the left/right of the picture ...

     next to

     in front of

     behind

     near

     on top of

     under

If something isn't clear

     It looks like a ...

     Maybe it's a ...

Examples of linking words

…because…, and, then, after that, before, but, for example

How to ask if you don't understand

I am sorry, I didn't understand. Is the man/woman …ing?/are the people ..ing?

What do you mean by …? Maybe you want to say….?

Could you please repeat?

APPENDIX C1

Vocabulary Worksheets

Task 1 Vocabulary Worksheet

You will see 16 pictures on a PowerPoint presentation.

Read the sentences and find the correct phrase for each picture.

If you know the answer, raise your hand!

1. **In the picture, I can** see a swimming pool
2. **They are playing** with the ball
3. **In the picture I can** see some children
4. **In the middle of the picture, I can** see a group of people
5. **There are** two bathing suits
6. **He is climbing** up the stairs
7. **There are** two diving boards
8. **The young boy is feeling** afraid
9. **He is feeling** shocked
10. He is tired to wait
11. **In the picture, I can see** a water splash
12. **In the picture, I can see** a naked hippopotamus
13. **They are jumping**
14. **They are throwing** snowballs at each other
15. **The orangutan is hanging** from the tree
16. **The man is floating** on the water

*Screenshot of the pictures used in the PowerPoint presentation for the task 1 vocabulary activity.

Task 2 Vocabulary Worksheet

You will see 24 pictures in a PowerPoint presentation.

Read the sentences and find the correct phrase for each picture.

If you know the answer, raise your hand!

1.**She is standing** in front of a door

2.**He is holding** a bunch of grapes

3.**She is brushing** her teeth

4.**There are four** toothbrushes

5.**There is a tube** of toothpaste

6.**She has got** big eyebrows

7.**In the picture I can see** a baby's ear

8.He has a funny face

9. **There is** a teddy bear

10.**In the picture I can see** a bathroom

11.**On the right of the picture I can see** a cupboard with a mirror

12.**In the picture I can see** a bedroom

13. **It looks like** a bed

14.**They are reading** books

15**. It looks like** a book with stories

16.**On the left of the picture I can see** a box

17.**In the picture I can see a** pair of glasses

18.It is night time

19.**On the right of the picture I can see** a nightstand

20.**The young child is taking** the candies out of the jar

21.**He is shooting at** the light bulb

22.**He is turning off** the light

23.**He is sleeping**

24.**In the picture I can see** a dark room

*Screenshot of the pictures used in the PowerPoint presentation for the task 2 vocabulary activity.

Task 3 Vocabulary Worksheet

You will see 15 pictures on a PowerPoint presentation.

Read the sentences and find the correct phrase for each picture.

If you know the answer, raise your hand!

1.**It seems to me that they are fighting**

2.**It looks like** a plastic doll

3.**I think that** he is frustrated

4.**I believe that** the waiting room is too busy

5.**It seems to me that** they need help

6.**I think there is** an empty seat

7.**It looks like** he wants to pull his jacket

8.**I think** he wants to grab the….

9.**I don't think that** this is the correct number

10.**I believe that** the waiting line is long

11.**Maybe** she is a nurse or a doctor, **I am not sure**

12.**In the picture I can see** a reception desk

13.**In the picture, there is** a man, and **a woman is standing** in front of him

14**.I can see** two young children, and **behind them, there is** a car

15. **I believe** he is angry
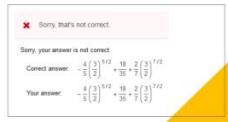
* Screenshot of the pictures used in the PowerPoint presentation for the task 3 vocabulary activity.

APPENDIX C2

Screenshots of the videos with advanced learners performing the tasks

In the next picture,
I can see the swimming pool still,
also, there is a diving board

clideo.com

I can not see his face, but he is standing in front of a cupboard and
he is holding a tube of toothpaste clideo.com
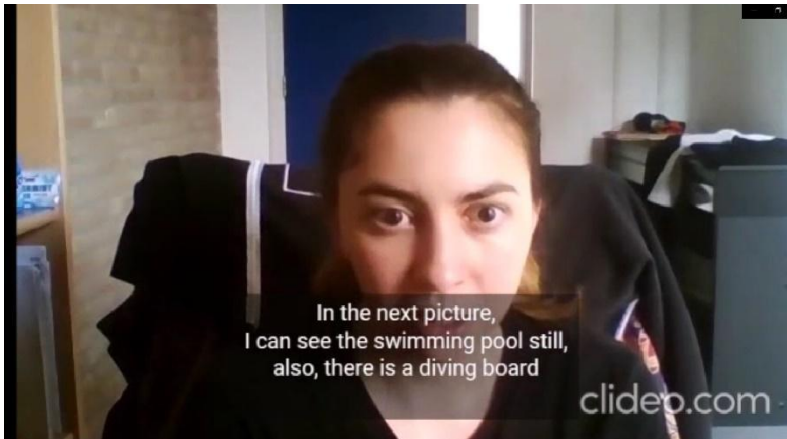
Language Background Information Sheet (English version)

Name

Age

Gender

- o Male

- o Female

Where were you born?

Please indicate the highest level of education you have reached

- o Primary school

- o High school-Diploma

- o High school until year………….

What is/are your native language/s?

- o Standard Arabic

- o Arabic dialect (indicate:…………….)

- o Farsi

- o Tigrinya

Do you speak any other languages?

Language 1 ……………………………………………………………………

Level: ○ Poor ○ Basic ○ Intermediate ○ Advanced ○ Fluent

Language 2 ……………………………………………………………………

Level: ○ Poor ○ Basic ○ Intermediate ○ Advanced ○ Fluent

Language 3 ……………………………………………………………………

Level: ○ Poor ○ Basic ○ Intermediate ○ Advanced ○ Fluent

Language 4 ……………………………………………………………………

Level: ○ Poor ○ Basic ○ Intermediate ○ Advanced ○ Fluent

How many years do you study English?

CONSENT FORM

Full title of the MA Thesis project: Chatting with peers: Effects of practicing via Synchronous Computer-Mediated Communication application on L2 oral development, task motivation and language anxiety.
Name of MA student: Evgenia Korvesi

I confirm that I have understood the information presented for the above study and I had the opportunity to ask questions, which have been answered fully.

I understand that my participation is voluntary, and I am free to withdraw at any time.

I provide permission for Evgenia Korvesi to collect and analyze my data (including questionnaires, audio and chat discussions).

I agree to take part in the above project.

Name   Date

Signature

APPENDIX E

Perceived Task Difficulty Questionnaire (English)

Circle the answer that indicates what you believe.

- This task required no mental effort at all.   1 2 3 4 5 6 7 8 9   This task required extreme mental effort.

- This task was not difficult at all.   1 2 3 4 5 6 7 8 9   This task was extremely difficult.

Table

Descriptives of perceived task difficulty questionnaire per treatment task

Task	Mean	SD
1st Task	3.5	2.8
2nd Task	4.7	2
3rd Task	6.8	1.4

Language Motivation and Anxiety Questionnaire (plus 6 statements targeting chat anxiety and technology use)

Language Learning Motivation and Anxiety Questionnaire

	strongly disagree	disagree	slightly disagree	slightly agree	agree	strongly agree
1.I would feel uneasy speaking English with/to a person who spoke that language.	□	□	□	□	□	□
2.I use English language-teaching computer programs.	□	□	□	□	□	□
3. I feel more tense and nervous in my language class than in my other classes.	□	□	□	□	□	□
4. I often use the Internet to practice English.	□	□	□	□	□	□
5. I get nervous when I'm speaking in my English class.	□	□	□	□	□	□
6. I often chat in English on the Internet.	□	□	□	□	□	□
7. My friends think English is cool.	□	□	□	□	□	□
8. I'm afraid that other students will laugh at me when I speak English.	□	□	□	□	□	□
9. People around me tend to think that it's a good thing to know foreign languages.	□	□	□	□	□	□
10. When I chat on the computer in English I am afraid that my chat partner finds me stupid when I make mistakes.	□	□	□	□	□	□

	strongly disagree	disagree	slightly disagree	slightly agree	agree	strongly agree
11. My friends think that studying English is important.	□	□	□	□	□	□
12. I feel embarrassed to write in English during a computer chat session at school.	□	□	□	□	□	□
13. I put off my English homework as much as possible	□	□	□	□	□	□
14. My friends are not bothered to study English.	□	□	□	□	□	□

	strongly disagree	disagree	slightly disagree	slightly agree	agree	strongly agree
15. When I study English, I seldom do more than is necessary.	□	□	□	□	□	□
16. I study English because I'd really like to be good at it.	□	□	□	□	□	□
17. I find that learning English is really interesting.	□	□	□	□	□	□
18. I'm ready to work hard to learn English.	□	□	□	□	□	□
19. I am happy when I see that I am making progress in English.	□	□	□	□	□	□
20. I study English because it will be necessary to work in English speaking countries.	□	□	□	□	□	□
21. I keep up to date with English by working on it almost every day.	□	□	□	□	□	□
22. Learning English is really great.	□	□	□	□	□	□

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	strongly disagree	disagree	slightly disagree	slightly agree	agree	strongly agree
23. I would feel uncomfortable using computer chat in English with/to a person who spoke that language.	□	□	□	□	□	□
24. I can imagine myself reading books and magazines in English.	□	□	□	□	□	□
25. When I imagine my future job, I see myself using English.	□	□	□	□	□	□
26. Learning English is necessary because it is an international language.	□	□	□	□	□	□
27. Studying English will help me feel part of the international community of people speaking English.	□	□	□	□	□	□
28. I can imagine myself speaking English with high proficiency.	□	□	□	□	□	□
29. I can imagine myself writing emails in English.	□	□	□	□	□	□

	strongly disagree	disagree	slightly disagree	slightly agree	agree	strongly agree
30. I study English because I would like to spend some time abroad.	□	□	□	□	□	□
31. I study English as it is necessary to pass my exams.	□	□	□	□	□	□
32. The things I want to do in the future require that I speak English.	□	□	□	□	□	□
33. I need English for my future career.	□	□	□	□	□	□
34. I would really like to communicate with English speakers in the future.	□	□	□	□	□	□

APPENDIX G

Questionnaire Items on Task Perception

Some Questions about This Project

What do you think about using chat in your English class? Tick the **three** answers that are most appropriate.

boring	easy	distracting	exciting	superfluous
☐	☐	☐	☐	☐
useful	important	funny	laborious	refreshing
☐	☐	☐	☐	☐

	strongly disagree	disagree	slightly disagree	slightly agree	agree	strongly agree
a. By chatting on the mobile with my classmate I have learned some English.	☐	☐	☐	☐	☐	☐
b. If I had been chatting with a English native speaker, I would have learned more.	☐	☐	☐	☐	☐	☐
c. These chat sessions were a useful practice for future spoken conversations in English.	☐	☐	☐	☐	☐	☐
d. These chat sessions were a helpful practice for future written tasks in English.	☐	☐	☐	☐	☐	☐
e. Mobile chat is more similar to speaking than to writing English.	☐	☐	☐	☐	☐	☐
f. Face-to-face communication in English is easier than communication by mobile chat.	☐	☐	☐	☐	☐	☐
g. Face-to-face communication is better to learn English than mobile chat.	☐	☐	☐	☐	☐	☐

Transcript of the interview with the focus group

R: *Was it easier completing the task via WhatsApp or face-to-face with your partner?*

S1: Yeah, writing is easier for me, whatsapp is easier.

S2: Yeah, for me too chatting is easier than speaking. When I speak I can't find the words.

S3: No, I think speaking is easier, I hate spelling.

S4: Haha, yes but all in all chatting is easier, you have time to think and write

S5: For me, they are of the same difficulty.

R: *Do you prefer speaking or chatting practice in English?*

S1: Speaking, I would like to learn to speak better. Chatting is easier, but I prefer speaking.

S2: Same, chatting is easier, but I need to speak, I am good when I write but I am not when I speak.

S3: I prefer to speak, spelling is difficult.

S4: Speaking for sure.

S5: Chatting because I feel less stressed.

R: *Do you believe there was something in the project that was especially difficult?*

Together: No

R: *Do you feel less anxious when you chat or when you speak in English?*

S1: In my opinion yes, when you chat, you don't need to see the other person, you have more time to answer, to think.

S2: When I am chatting, I can use Google translate if I don't know a word, and if I don't want to make a mistake, I have time to speak, when I am typing.

S3: Chatting is less stressful, because is not difficult to type, and I do not really speak English, so when you chat you can search words on the internet and you can think which word fits better, you have the time to do it.

S4: Yes, I agree, chatting is less stressful.

S5: My opinion is that speaking is less stressful, when you speak you can use your hands and your expressions and the other person can help you find the words if you miss them, I prefer speaking and I feel less anxious when I have to speak in English.

Transcript of the interview with the teacher

R: *What did you like most about the project?*

T: I liked several aspects of it, I liked the approach with the chat tasks, via WhatsApp, because this is something that speaks to them and I noticed that they started quite enthusiastically. Looking at the tasks, I liked the vocabulary tasks most with the PowerPoint you made and matching the pictures with the sentences you prepared, I liked that because of the simplicity of the task but it works really well and I noticed it worked really well, especially for the lower level students, they felt like " hey this is something I can do, I can also answer in class because, like the slow students like Raghad and Bayan also started answering the questions. And I liked that element of it, and I also liked the way the entire task was set up, how it was structured, with advanced learners setting an example of how to do the task, the vocabulary exercises and then... how it built up, so yeah, I liked that.

R: *Something that was especially difficult?*

T: I think the questionnaire, language learning motivation and anxiety questionnaire. I felt it was for my students, some of the statements were a bit too abstract. I felt it was a bit too difficult and too abstract for them. Now, something that was especially difficult in the tasks? Nothing really, I think it was doable, yeah, the exercises became more difficult as we get along, the third task was more difficult. Yeah, I don't think it was too difficult.

R: *Do you think chat interaction helps students to learn something? Does it boost speaking skills?*

T: Yes, I do. I think it gave them some time to think, like when you start a speaking task, you immediately you have to start speaking than... this gave them some time to think and to implement the new vocabulary they learned. I do think it motivated them and motivation always helps learning. I do think it boosts speaking skills, so I do think we should have

maybe... but I will do that in the next few weeks do some follow-up exercises, like we will have a look at a video, then the vocabulary task with the PowerPoint, the advanced learners, a good example how the task could be performed, and then the chat task based on the video and then to really like master it, they should have, it should have followed up with some new speaking tasks in which they have to implement the same kind of language. But I will do that the next few weeks. So yeah, I do think it boosts speaking skills, like I said them using the same structures over and over again via chat, it should have helped them using them orally. Also, I did see it builds their confidence, especially for the weaker learners. The whole task, the structure of the tasks and chatting itself I think it boosts their confidence to actually speak. But we will have to do more speaking tasks to actually check this, but yes it gives them tools to speak more, to speak better.

R: *Would the students have learned more if they have chatted with a native speaker?*

T: Yeah, I do think so, if we had that opportunity, because a native speaker can model, like without actively correcting things, can model the right structures, can use more advanced vocabulary that they could pick up on. But, maybe for this specific task it didn't really matter whether they spoke with a native speaker, because they were really focused on their own picture, so to say on their own task.

R: *Do you in spoken would be harder to perform the task?*

T: Yes, for this specific group of slow learners, who are not at A2 level yet, yeah, I think chatting gives them some time to think about structure, the vocabulary. However, I don't know how their spelling is for example in their chats, I don't know if this is... a kind of a problem that makes it more difficult to do the chat tasks. When looking at the vocabulary and the structure, I would say that it would be more difficult to do the task in speaking than in chatting, mostly because of time provided to consider what they are going to say. It is actually more stressful to speak, is confronting. I do like the whole thing, the set up, I do think it

worked and it does help build the confidence, it does help them acquire some new structures, some new tools, some new vocabulary. It will also help them, I am quite sure it will help them in their speaking exams, I do feel that they feel more confident now describing photos. They have some more language available to describe things, like today you noticed maybe Maryam giving quite a few good answers, actually it was the first time I heard her. She hasn't taken any initiative so far in class to answer questions in English, so I think it does help them and that is just one example. One or two weeks ago, I noticed Raghad to be more active in class, she is always very easily distracted, because it is a bit difficult for her to speak English, the same goes for Bayan. And now this is more doable for them, and that way they learn more because they feel like they can do this.

R: *Would you use chatting as a teaching tool?*

T: I like it. I would... you know in teaching is always, I would have to put in some time to figure out what you did, like how they can send me the chat history... oh I loved the video tutorials in both English and Arabic by the way. They appreciated that, you tried to use their native language. Yeah, I do, I was thinking I could design something like this for next year, same kind of tasks. I do like it yeah. You could also not use a transcript but just practice, do it in a less formal way. Do a chat task first and then a speaking task, maybe I can even try next week, to see how it works out if I give them a picture to describe it via chat, followed by a speaking task. I do like it but I have to be honest as a teacher, as you have already noticed I think, I am always short of time, the days really feel from morning to nights…trying out new things always cost some time but I am curious also to see how this works out in the speaking exam, all the exercises we did. I am curious about your findings.

R: *Do you want to add something else?*

T: With this group of students, high school students, aged 16, 17, 18, lower-level learners, they often want just to be done with it. I sometimes felt they just quickly typed some

things, get it over and done with, not really trying their very hardest to make the most beautiful sentences. So, the advantage of actually doing actual speaking task and not a chatting task, for you as a teacher is, when they are working then you can just walk by and listen to their English and ask them some questions. When they are chatting, you don't want to look over their shoulders all the time and comment on their chats, so I have less of an idea of how they are actually doing on the chat, so I have a clear picture how the vocabulary task worked out because I saw them being very active and very responsive, but... one of the issues of this group is self-regulation and you need to monitor them, yeah. But yeah, in general I loved it and you had a good connection with the students, you know their names within a week which is amazing, and they noticed.

APPENDIX I

Holistic rating scale Guidelines to global evaluation of language performance adapted from

Storch (2005)

The language output is assessed on a score out of 5. This score evaluates the language output mainly in terms of structure and task fulfilment. In order to fulfil the task, the product needs to include the description of the main elements that appear on the pictures and the narration of what happens should also be clear.

5. This is a very good result. The output is well structured. It contains a clear and complete description of the pictures and the narration of the story is logical. Ideas are clearly organized, and good use is made of linking words/phrases.

4. This is a good result. The output has a clear overall structure. All pictures are described, and the narration of the story is easy to follow most of the time. Ideas are generally well organized and linking words/phrases are generally used appropriately.

3. This is a satisfactory result. It has an overall structure, but the description of some pictures may be incomplete and the narration of the story hard to follow. Linking words/phrases may be missing or used inappropriately.

2. This is an adequate result. It is difficult to follow because the description is very incomplete, and the narration is not well organized. There is a general lack of linking words/phrases. There might be repetitions.

1. This is a poor result. It is poorly organized and difficult to follow. Description and narration are poor or absent.

Colofon

English Summary

This classroom-based study explored whether synchronous computer-mediated practice through a series of interactive narrative tasks can influence second language (L2) oral development by transferring skills across modalities. It also investigated the relationship between learners' affective variables and synchronous computer-mediated communication (SCMC) task perception. The participants consisted of 15 low-intermediate adolescent refugee learners of English, who were enrolled in an English foreign language (EFL) class at a vocational training center in the Netherlands. All participants had an atypical learning biography, that is a refugee background, disrupted schooling, and a lower level of English in comparison to typical Dutch adolescents. Discussions with the English classroom language teacher indicated that the students had difficulties with mastering speaking skills. The main attempt of this classroom project was to offer a real value teaching practice, fitting the students' needs and objectives of the class.

In this study, a within-subject design was used. To improve ecological validity, the oral and chat data collection was completed during the students' regular English classes. After implementation of the instructional treatment (Robinson, 2001, 2005) and the administration of the posttest, the participants filled out a language motivation and anxiety questionnaire (Kormos et al., 2011). Further questions were also addressed to the learners and the English classroom teacher in order to evaluate deeper their perceptions regarding the use of SCMC in the FL classroom. The participants' chat logs and speech samples were coded manually for general accuracy, task-specific accuracy, fluency, and functional language use (FLU) measures. Descriptive statistics and multiple comparisons of means were performed for the different linguistic variables for both SCMC and face-to-face (F2F) pretests and posttests.

Correlation matrix analyses based on ranks were performed to investigate how the constructs of anxiety, motivation, and task perception were related to each other.

The results showed that this task-based SCMC instructional treatment had a statistically significant, and strong effect on most of the linguistic measures used to gauge chat and oral performance. The similar gains in chat and oral interaction further supported the potential transferability of SCMC learning outcomes to F2F communication. The findings also revealed that on average the participants hold positive attitudes towards the use of SCMC in the classroom. Overall, this study highlights the benefits and challenges of text-chat interaction as a learning environment for L2 development and discusses the implications for further research and FL pedagogy.

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