

The Impact of Interactive Discussions on Essay Writing in Swahili as a Foreign Language

By

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ABSTRACT

In the learning of a foreign language, for a long time it has been assumed that essay writing is an individual task, a situation which researchers like Hamdaoui (2006), Susser (1994), and Weissberg (2006) are proposing should not be the case. I base my contribution to this research on interactionist and collaborative learning theories. I scientifically examine the impact of communication among students through face-to-face conversation and synchronous computer mediated interaction when they write essays in Swahili on their own. The researchers I have mentioned propose that essay writing is a social process that requires concerted efforts, just like other social undertakings. This approach is what I term interactive and collaborative since the participants in the process get an opportunity to exchange ideas and benefit each other in different ways before getting into the actual task of writing their own essays.

The participants in the study were ten second year students of Swahili language at a major university in the US Midwest who were in their fourth semester of Swahili. All ten students had five fifty-minute computer mediated pair interactive sessions and another five face-to-face pair interactive sessions. Immediately after the conclusion of the above-mentioned interactive activities, I asked each student to write an individual essay in Swahili for a period not exceeding 30 minutes in which a student discussed the topics of the previous interactive activity. I also conducted interviews with each participant in order to get their views on the two methods of communication they used. At the end of the study, in Week 12, I also asked the participants to fill out a general perception questionnaire in order to get further information on their views on the two modes of interaction.

I found from the results of my data analysis that the two methods of communication were relevant in boosting the ability of the students to write an essay in Swahili. Participants derived

benefits from the two methods and were better able to understand social issues, which helped in turn enhance their writing. These two techniques also made the students curious about how to write excellent essays in Swahili. Nevertheless, it is important to note that, although these two techniques exhibited similar importance in one way or the other, they differed in the way in which they benefited individual students in writing their own essays. When the students were involved in the synchronous computer mediated communications, they were able to transfer various elements of communication and infuse them into their written essays. When the students were engaged in face-to-face communication, they transferred only a few elements from their chat to their own essays. I could fairly compare the transfer of elements from students' S-CMC to their individual essay writing whereas essays that they wrote immediately after the face-to-face communication entailed selecting just some of the elements from the interactive texts. During the interview, some of the participants said that S-CMC enabled them to think more deeply on the situations which made the chat more fruitful, as well as the essay writing that followed. Overall, my research findings support the incorporation of interactive and collaborative activities into learning how to write an essay in Swahili and possibly other foreign languages. Secondly, my findings showed the importance of computer technology in enabling the students to enhance their skill in writing essays in Swahili and possibly other foreign languages.

To my family

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CHAPTER 1: INTRODUCTION

In one of his lecture series at the University of California-Berkeley, Prof. Mchombo once mentioned that Swahili is the most important and widely studied indigenous language of Africa. The national and official language of Kenya and Tanzania, it is spoken as a native language on the East coast of Africa and the islands adjacent to the coast from Southern Somalia in the north down through the Kenyan and Tanzanian coasts (Hinnebusch and Mirza 2000). It is also a lingua franca of countries in East Africa spoken as a native or second language by millions of people mainly in Kenya, Tanzania, Uganda, and East Zaire. There are also speakers in Mozambique, Rwanda, Burundi, Zambia, Malawi and Southern Arabian countries such as Yemen and Oman, as well as other parts of the world. It is aired in radio broadcasts such as the British Broadcasting Corporation, Voice of America, and Deutsche Welle. It is heard in songs of famous singers such as Miriam Makeba and in popular films like *The Lion King*. African-Americans refer to their annual cultural festival as Kwanzaa, which is derived from the Swahili word kwanza or ‘first.’ Swahili is taught in academic institutions from Japan in the East to the United States in the West. In the US institutions, Swahili language can be used to fulfill language requirements. The study of Swahili also provides interesting issues regarding language policies and language planning. Whatever the area of research one is in, be it linguistics, anthropology, geography, archaeology, or sociology, knowledge of Swahili and its many varieties is essential if one is working in the East African region. There are many benefits of knowing the Swahili language, including the fact that it serves as a good vehicle to accessing Swahili culture. Swahili has a long written tradition and remarkable history. In her presentation about Swahili *Kanga*¹ during the world language day that was hosted by the language institute at the university of Wisconsin-Madison, Professor

¹ The *Kanga* is a rectangular cotton cloth found in East Africa. It has a border all around it printed in bold designs and bright colors. http://www.glcom.com/hassan/kanga_history.html

Magdalena Hauner added that, knowing Swahili enhances the credibility of researchers interested in East Africa and that it is a fast growing language in East Africa, Africa as a whole, and the world in general. This growth of Swahili is due to many reasons, including historical, economic, political and social. In the United States, there have been efforts to encourage learning of Swahili as a second language.

In popular languages like English, the use of interaction and collaboration to learn the language has existed for a long time (Lundstrom & Baker, 2009). In this research, I investigated the effects of synchronous computer mediated communication chat and face-to-face communication on student essays in Swahili as a foreign language. This research helped me to understand the type of language that students transfer from their conversation to their essay writing in Swahili. I also investigated how essay writing in Swahili as a foreign language can benefit if the writing is preceded by interaction and collaboration activities.

In this study I investigated interactive and collaborative communication and its impact on essay writing. I investigated two types of interactive and collaborative communication, face-to-face communication and S-CMC² chat.

Interaction and collaboration are often used in foreign language teaching including writing. However, they are applied to varying degrees for different languages. These methods have been used especially in the writing of English as a second language (Berg, 1999; Liu & Hansen, 2002; Lundstrom & Baker, 2009; Mendonca & Johnson, 1994; Miao et al., 2006; Villamil & de Guerrero, 1998; Zhu, 2001); however, their use in Swahili writing has not been investigated.

Professionals and language researchers agree that essay writing for foreign language learners ought to involve many persons, as is the case in fields such as the social sciences, mathematics and the humanities (Ferris & Hedgcock, 1998; Hamdaoui, 2006; Susser, 1994; Weissberg, 2006).

² S-CMC throughout the dissertation is used as an acronym for Synchronous Computer Mediated Communications.

In the last two decades, computer mediated conversation (CMC) has begun to be used in foreign language classes (Magnan, 2008). There are two types of CMC: synchronous (S-CMC) and asynchronous (A-CMC). Synchronous communication is instant-written communication that occurs between two participants. It is carried out by means of internet-enabled computers. In this type of communication, participants write, send, and receive messages instantly (Smith, 2005; Tudini, 2002). In contrast, asynchronous communication takes place outside of real time. For example, participants may send each other e-mail messages. Each of the participants later reads and responds to the emails. There is a time lag between the time one sends the email and the other replies. Language teachers have used CMC to fortify various skills in their students, including writing. Most of these studies have investigated CMC only in a computer environment and have not investigated the use of CMC in conjunction with other skills like writing in an environment that does not have computers. Few studies have investigated how communication styles using computers help students with their writing. In this study, I investigate only one type of computer communication: synchronous computer mediated communication (S-CMC), specifically, how participants in S-CMC chat transfer various aspects of the S-CMC chat into their own essays in Swahili.

In this study, I compared face-to-face communication and S-CMC chat. One of the differences between these two types of communication is that face-to-face communication is spoken whereas S-CMC chat is written. Although these two types of communication seem to contrast with each other, they also share some similarities in that they involve interaction and collaboration. In this study, I define interactive and collaborative communication as one that enables its participants to exchange ideas and have negotiated communication. In the study, I was guided by interactionist (Long, 1996) and collaboration theories (Vygotsky, 1978) so as to

gain a better understanding of the communication of such a structure and how this impacted the essays that the students wrote.

Since the invention of computer technology, computer use has greatly assisted in the teaching of foreign languages. Students are able to take part in S-CMC chat, record their voices, or watch videos. The use of S-CMC chat has attracted various researchers examining how computers might improve the teaching of foreign languages. S-CMC chat has two important characteristics: first, it is written; and second, it has features that are close to those of face-to-face communication that allow participants to engage in real-time communications. On the other hand, unlike face-to-face communication, when students engage in S-CMC chat, they communicate through writing. Unlike other types of writing such as letter writing, a participant in S-CMC chat is not given much time to go through what they have written (Iwasaki & Oliver, 2003, p. 62). When they are involved in S-CMC chat communications, they pass on their messages at once. This characteristic of S-CMC chat has given rise to a new type of communication that foreign language students didn't have before. Darhower (2002) goes further to claim that S-CMC chat is extraordinary because "it brings together writing techniques and direct collaborations like the ones evident in face-to-face communication" (p. 250).

Until now, studies related to S-CMC chat have investigated language styles (Abrams, 2003; Chun, 1994; Warschauer, 1996); negotiation of meaning (Blake, 2000; Blake & Zyzik, 2003; Fernández-García & Martínez Arbeláiz, 2002, 2003; Fidalgo-Eick, 2001; Lee, 2001; Mali, 2007; Pellettieri, 2000; Smith, 2004); communication strategies (Lee, 2001; Mali, 2007; Smith, 2003b); learner participation (Beauvois & Eledge, 1996; Darhower, 2007; Kern, 1995; Smith, 2003a); learning effects (Abrams, 2003; Kelm, 1992; Kern, 1995; Smith, 2004; Warschauer, 1997); and affective factors (Beauvois & Eledge, 1996; Chun, 1994; Darhower, 2002, 2007;

Kern, 1995). Studies have also investigated how students learn the target culture when they are involved in S-CMC chat (e.g., Darhower, 2007). In general, studies on S-CMC chat have revealed that this type of communication makes students attentive to the linguistic structures of the foreign language they are studying (Warschauer, 1997). These studies also reveal that students make fewer grammatical errors when they are engaged in S-CMC chat (Kelm, 1992). Other findings in these studies are that students spend more time discussing a specific topic than they do in face-to-face communication (Sotillo, 2000). The studies have also revealed that students generate more language over time as they get used to S-CMC chat (Abrams, 2003; Kern, 1995); and that students use complex structures when they generate the foreign language that they are studying (Kern, 1995). Also, this type of communication has a positive effect on students' speaking and writing (Abrams, 2003; Kern, 1995) and students of different levels, backgrounds, ages, and genders become more involved in the generation of the new language they are learning (Beauvois, 1998; Kelm, 1992; Kern, 1995; Warschauer, 1996, 1997). Studies have also shown that this type of communication provides students with an environment conducive to practicing the language they are studying (Chun, 1994; Warschauer, 1997) and motivates them to practice it more (Beauvois & Eledge, 1996; Jurkowitz, 2008; Kelm, 1992; Sotillo, 2000).

However, while S-CMC chat is beneficial, it also has disadvantages. One disadvantage is that participants in S-CMC chat do not have adequate time to evaluate and review what they write since they don't want to be left behind by their fellow students in the process of communicating (Jurkowitz, 2008). In this case, at some points during the communication, the participants don't alternate, since one of them does not get time to give a response.

Many studies that have been done on S-CMC chat have investigated it in its own right. However, there are also studies that compare it with non-electronic foreign language communication (Abrams, 2003; Bearden, 2001; Fernández-García & Martínez Arbelaz, 2003; Jones et al., 2006; Sotillo, 2000). Nonetheless, studies that investigate the effects of S-CMC chat on the language proficiency of a student learning a foreign language are scarce except for some few studies that I mentioned on page four although the aim of such communication, from the onset, is to promote student language proficiency. When techniques of teaching foreign languages allow technological devices like S-CMC chat to be part of them, there should be studies that track how students transfer that kind of communication to their foreign language learning. This is one of the issues that led me to do this research – I aimed to investigate the impact of interaction and collaboration in S-CMC on individual essay writing in Swahili, when it is taught as a foreign language. Weissberg (2006) showed that social interaction among students of foreign languages is significant in improving their writing.

Hyland (2002) suggested, “The effectiveness of a written text does not depend on removing readers [interlocutors] from it, but on correctly identifying an audience and employing the communicative conventions to which they are most likely to respond” (p. 52). In supporting Hyland’s opinion, high intellectual ability manifests itself in social interaction. Learners should have an active role in improving their skills, writing included in the language they are studying (Vygotsky, 1978, 1986), writing included. Research done by Roebuck (2000) found that students learning Spanish as a foreign language often use inner social speech when confronted by a tough topic on which they are required to write. Social interaction gives the students an opportunity for scaffolding, especially when they are in the zone of proximal development (the difference between what a learner can do without help and what he or she can do with help) as explained by

Vygotsky (1978). To date, only a few studies have been undertaken which can shed light on the relationship between speaking Swahili as a foreign language and writing it. According to interactive and collaborative theories of foreign language learning, when students are paired for a speaking session before writing it helps them improve their grammar as well as their fluency in that language, and enables them to use complex language. This speaking activity preceding a writing session also creates an environment conducive to practicing the foreign language they are studying, scaffolding and motivating them to learn the language.

In addition to the shortage of studies on the relationship between speaking and writing, the teaching of the writing skill has not been emphasized compared to other language skills. In my conversation with a number of Swahili instructors in the United States, I discovered that in classes where Swahili is taught as a foreign language, the skills that have been given precedence are speaking and listening, especially at the elementary levels. Many teachers who teach Swahili as a foreign language in America do not emphasize writing until students are in their second year of studying Swahili. Students are often left on their own to develop their own methods of learning writing. In the modern teaching of Swahili and other foreign languages, there has been a call to change this situation. The need for those studying Swahili as a foreign language to develop their four basic language skills in a balanced way has been on the rise. Mchombo, in his language and social issues class at the University of California–Berkeley, attributes this to the fact that various American government institutions have listed the Swahili language as important for national security, politics and the American economy. Consequently, other government institutions in America such as the American Councils are carrying out research into how students can develop the skill of writing in Swahili.

The main objective that I had in this study was to investigate the effects of interaction and collaboration in the learning of writing. The relationship between learning Swahili as a foreign language individually and learning by collaboration has not been well researched and not many researchers have attempted to find out if there is a difference. To date, I only know of studies conducted by Msanjila (2005) and Mwansoko (2003) that can shed light on the relationship between speaking Swahili as a foreign language and writing it.

Research Questions

The following four questions thus guided my study:

1. Did the S-CMC chat impact individual essay writing in Swahili? If yes, in what ways?
2. Did the face-to-face communication have any impact on individual essay writing in Swahili? If yes, in what ways?
3. Did the impact of the face-to-face communication vary from those of the S-CMC chat?
4. Did the students studying Swahili as a foreign language have any opinion about S-CMC chat or face-to-face communication?

Based on the above research questions, I developed several hypotheses. According to past studies, S-CMC chat may reinforce participants' grammar, and improve the language they produce, as well as its complexity (Abrams, 2003; Kelm, 1992). This form of communication may increase student participation and create an atmosphere conducive to practicing the foreign language that the students are studying (Smith, 2004; Warschauer, 1997). In addition, it can motivate students to learn more of the foreign language (Kern, 1995)

I expected that paired S-CMC chat in Swahili would help students improve their familiarity with use of Swahili grammar, as well as their fluency and thereby enables them to generate more

complex language. I also expected that participants speaking in pairs using Swahili would be beneficial to essay writing.

Because S-CMC chat and face-to-face communication differ, their impacts are thought to differ as well. Past studies do not provide any evidence to show whether the effects of these two types of communication are similar or different; they just mention that S-CMC chat has certain advantages in writing over face-to-face communication. Examples of these advantages are: giving the student the opportunity to examine the form in the written language they generate (Warschauer, 1997), and creating an environment conducive to studying a foreign language (Chun, 1994). These past studies also show that the environment in which the S-CMC chat takes place gives the participants an equal opportunity to communicate when they practice (Warschauer, 1996, 1997). It is, however, important to state that these advantages have been realized solely in the S-CMC chat environment. We do not know if these advantages are transferred to other skills the student acquires when studying a foreign language. Research done by Jones et al. (2006) opposed assumptions that S-CMC chat enables the student to focus on the structure of the language generated and showed that participants in S-CMC chat (peer training on writing) heavily emphasized universal issues such as content and process. The interactive communication did not concern itself with the structure of the sentences generated. In this study I expected that S-CMC chat and face-to-face communication would have varying effects on each individual student's essay writing in Swahili.

This study is significant in the teaching of Swahili as a foreign language, bringing new scholarship to the teaching of writing in Swahili as a foreign language. According to interactive and collaborative theories of foreign language learning, when students are paired for interaction and collaboration, it helps them improve their grammar as well as their fluency in that language,

and enables them to use complex language (Kern, 1995) This pairing also creates an environment conducive to practicing the foreign language they are studying, scaffolding and motivating them to learn the language (Sotillo, 2000). I thus expected that students would have positive views regarding these two methods of interaction and collaboration when used as preparatory methods before writing their essays in Swahili.

Dissertation Arrangement

This first chapter presents the background to the study, the theoretical framework, the significance of the study, the research questions and hypotheses, the sample selection, and the data collection and analysis. Chapter two is the literature review. Chapters three, four, five and six present the results of the research questions. In Chapter seven, I discuss the research findings and the importance of this research in the teaching of Swahili.

CHAPTER TWO: LITERATURE REVIEW

In this chapter, I discuss the place of preliminary preparation preceding writing, general principles of essay writing and their implication for Swahili writing, research on the effects of synchronous computer mediated communication on writing, and research on the effects of face-to-face communication on writing.

In the literature review, I found out that past studies have investigated synchronous computer mediated communication only in a computer environment and have not investigated the use of S-CMC in conjunction with other skills like writing in an environment that does not have computers and thus gives rise to particular questions related to computer mediated communication that this study addresses.

Additionally, from the literature review, I found that past studies have not adequately shed light on the relationship between speaking Swahili as a foreign language and writing it. The studies are mostly about how face-to-face conversation helps foreign language learners with their speaking skills and not in their writing skills. Therefore, the second aim that I had in conducting this study was to investigate how speaking, as a pre-writing task, impacts writing in Swahili as a foreign language.

In order to investigate the effects of interactive and collaborative communication on writing ability, we must first ask: what does it mean to be able to write? Good essay writing entails being able to produce correct and complex grammar, containing valuable content, in an acceptable and interesting structure presented in a good sequence (Chiang, 1999; Cohen & Brooks-Carson, 2001; Hawkey & Barker, 2004; Housen & Kuiken, 2009; IGCSE ESL, 2005; Ortega, 2003; Paulus, 1999; Polio, 1997; Way et al., 2000). Although Kirby & Kantor (1983:87)

opine that the principles of essay writing that I mentioned above were created on the basis of essays written using languages of the West, some of the principles are currently being used in essay writing in Swahili.

In essay writing, the writer needs to prepare and strategize well. The vocabulary, the grammar elements, the ideas and the structure that the writer is using, all these need to be taken into account by an essay writer. This is a practice that most writers have become used to (Shin, 2008). Preparation for essay writing may be individual or involve others.

The view that essay writing ought to be an individual undertaking prevents students from having the opportunity to assist each other in their essay writing. However, various researchers have asserted that essay writing should be a social and that benefits may be realized if students are allowed to learn writing in pairs or groups (Susser, 1994; Weissberg 2006)

Long's (1996) interaction hypothesis is an extension and modification of Krashen's (1982) input hypothesis. Using the interaction hypothesis, researchers in language learning have investigated how students' language improves through opening chances for comprehensible input as well as through providing more opportunities for language output. The hypothesis emphasizes the idea of language students being given the opportunity to negotiate meaning. When students interact, they build their language through negotiating meaning with their peers in a manner in which their messages are understood by their interlocutors in the communication process.

The key point of the interaction hypothesis that is of interest to this study is that interaction among students of Swahili is important for language acquisition, enhancing it in many ways. It is through interaction that foreign language learners negotiate meaning that leads to language acquisition. For negotiation of meaning to happen, interlocutors employ a number of

strategies such as confirmation checks, clarification requests, and comprehension checks, among others. These trigger language learners to modify their language input in an effort to understand or make their language partner understand their message.

The collaborative approach emanates from the epistemology of social cultural theory that states that human beings are products of their societies and develop while within those societies (Vygotsky, 1978). The context in which collaborative language learning occurs emphasizes interaction of the members of a society. Language students are, therefore, stakeholders in the whole process of learning and collaborate with others to create knowledge.

According to socio-cultural epistemology, students need to be motivated to take part in tasks that will make them interact and collaborate with other students in generating and regenerating language (Storch, 2001, 2005). Interaction enables students to work in pairs or groups and build the language together as opposed to working individually (Freeman, 1992). Language students pool linguistic resources to benefit from each other's contributions, helping them to produce linguistically complex texts with correct grammar (Storch 2002, 2005). Storch (2005) compared the texts of languages that were generated by students who learned English as a second language and collaborated with their peers and those in which the students did not collaborate with their fellow students. She found that students who worked in pairs produced short texts with more appropriate grammar and complex linguistic elements, and that were better organized and better connected to the topic than those texts produced by students who worked alone (p. 168).

Shin (2008) investigated the effects of interaction programs on the second language writing of Korean students, comparing the effects of individual and collaborative programs in the writing of English as a second language. His investigation found that students who participated

in collaborative programs wrote better essays than students who participated in individual programs. He considered students' level of English language learning as well as the type of topic they were given. He found that the essays the students wrote depended very much on the program, their language level, and the type of topic.

In her study, Mali (2007) utilized eight participants to study the issue of negotiation of meaning using students who were studying Zulu as a foreign language.

In students' interaction, it is possible that those with slightly better language ability could assist those who with below average ability with scaffolding³ (Donato, 1994; Ellis, 2000; Storch, 2002, 2005). The two communication techniques of interaction and collaboration provide a good opportunity for students to interact in generating more knowledge through brainstorming, with everyone understanding the knowledge that the other person has and later, able to process different experiences they generate and acquire from others (Haynes, 1998; Warschauer, 1999).

Research on the Effects of Synchronous Computer Mediated Communication on Writing

Researchers have used both interactive and collaborative theories to investigate language in S-CMC. Those influenced by the interactive theory up to now have investigated the success of S-CMC in providing an environment where a conversation participant can interact as well as receive and generate language in their effort to build a negotiated form of communication (Blake, 2000; Blake & Zyzik, 2003; Fernández-García & Martínez Arbeláiz, 2002; Jurkowitz, 2008; Lee, 2001; Mali, 2007; Oskoz, 2003; Pellettieri, 2000). Warschauer (1997) used the socio-cultural approach to investigate the role of online communication as an environment in which collaborative language communication takes place. Beauvois (1997b) and Darhower (2002)

³ Donato (1994) defined scaffolding as a "situation where a knowledgeable participant can create supportive conditions in which the novice can participate, and extend his or her current skills and knowledge to higher levels of competence" (p. 40)

investigated the significance of S-CMC as a way of studying language from a socio-cultural viewpoint.

S-CMC chat is unique in how its participants can carry out negotiation of meaning using writing. Different from face-to-face communication, participants in S-CMC chat have the ability to generate negotiated meaning using language at their own speed, unlike in face-to-face communication (Fernández-García & Martínez Arbeláiz, 2002). Therefore, participants in S-CMC chat have the opportunity to gain more from their interaction with their fellow students.

S-CMC chat differs from other forms of writing because it is interactive (Warschauer, 1997, p. 472). Any writing by a student reaches their fellow interlocutor instantly and for that reason, writing produced by a participant may or may not be read many times by their fellow interlocutor. Both the participant and their fellow interlocutor use the language that they generate and receive to know what to write next. And because the participants in this type of communication try to interact and produce language through negotiation of meaning, it is important they ensure that the form of their language is well recognized by their fellow participants. Therefore, in their writing, they will observe the linguistic forms, because it is through these forms that the messages they are relaying can be better understood. If it happens that the participants did not communicate well, they will write to each other, requesting further explanation by rewriting their message so as to solve the communication breakdown that exists. This enables the participants in the conversation to recognize and ponder the forms of the language they are producing because they get instant response from their peers. Van Patten (2004) says that since the participants have a synchronized conversation in which it gives them the opportunity to notice various linguistic forms, this noticing is very important to the students when they endeavor to bolster their competence in putting together different linguistic forms in

constructing their sentences (p. 13). This also enables the participants to be more attentive to the language of fellow interlocutors and add it to their language that they are trying to build as they learn the language. That the participants are able to see what they write as they interact gives them the opportunity to process more text and gain more academically (Abrams, 2003). Opportunities to freeze a single frame and focus attention on it are greatly expanded (Warschauer, 1997, p. 472).

The S-CMC chat environment can also be explained using the collaborative approach. S-CMC chat is a type of social environment that students of Swahili can benefit from. Sirc (1995) opines that S-CMC chat provides the opportunity to practice writing in a social environment. Kern (1995) asserts that S-CMC chat provides “a powerful means of restructuring classroom dynamics and a novel context for social use of language” (p. 470).

On this basis, Sotillo (2000) claims that S-CMC chat expands the environment for learning to write language because it enables the intense social interaction and textual meaning construction and negotiation deemed crucial for human learning and development of higher-order cognitive functions to occur (p. 102). In S-CMC chat, conversation participants exchange ideas, use language, and together build their views (Honeycutt, 2001). Received and generated messages are built through cooperation in the social context (Lee, 2002, p. 17). Language writing is no longer perceived only in its personal dimension by the researchers, but as an interactive process that may be mediated successfully by computers and groups of conversation participants (Ciekanski & Chanier, 2008, p. 163).

Jones et al. (2006) compared face-to-face conversation and S-CMC chat between a writing professional and his client at a university writing center. Their study showed that in face-to-face conversation the authority that the professional had over the client was evident from how

the professional contributed to and dominated the conversation. But in the written conversation, the professional and the client had equal opportunities to write, and the client wrote more than the professional himself. This indicates that power relations in participants involved in either face-to-face or S-CMC may differ depending on the mode of interaction. In face-to-face conversations, the more authoritative participant may dominate the conversation but in S-CMC, the power relation may not be noted in how participants interact.

Earlier studies have indicated that the language generated by S-CMC chat has characteristics that are similar to spoken and written communication. According to Beauvois (1998), during situations when participants have a slow S-CMC chat, that is an indication that the language output of the participants in the chat is in the process of taking on characteristics of the spoken language. In this way, S-CMC chat bridges the spoken language on one end and the written on the other (Chun, 1994). We can also say that S-CMC chat is spoken language used by people in their communication, only it is written (Lotherington & Xu, 2004; Warschauer, 1997).

Research on the Effects of Face-to-Face Communication on Writing

Usually, speech is used in foreign language lessons for practicing listening and speaking skills and rarely will speech be used to improve the writing skill (Weissberg, 2006). For a long time, speaking and writing have been regarded as two distinct skills. Weissberg says that class activities that include speaking exercises aimed at enhancing the writing skill are rarely done. The relationship between speaking and writing has not been extensively studied. However, Hyland (2002) and Weissberg (2006) claim that conversation can be used as an appropriate tool to provoke the mind and stimulate recall of experiences on social issues that are important in writing. Raimes (1992) claimed that speaking on a certain subject may be an important step in

the writing process. The possibility of face-to-face communication being used as a tool for learning the writing skill requires further research.

CHAPTER 3: THE IMPACT OF SYNCHRONOUS COMPUTER MEDIATED COMMUNICATIONS ON ESSAY WRITING IN SWAHILI

Does synchronous computer mediated communication have an impact on essay writing in Swahili as a foreign language? I first of all provide the methodology that I used to answer this question and then address the question in four parts, presenting: (i) my analysis of the S-CMC chat transcripts; (ii) my analysis of the post interaction essays; (iii) my analysis of the impact of the S-CMC chat on post interaction essays; and (iv) a summary of my findings.

Methodology

I divide this section into subsections that revolve around the procedures that I used to collect data and different sources from which I got data. In an orderly manner, I discuss various aspects of the methodology that I adopted for this study. The aspects that I discuss in this section are as follows;

- a) Site and recruitment procedures
- b) Software used for chatting
- c) Procedures used for collecting data
- d) Reasons for free-discussion tasks
- e) Time allocated for both interactive and post essay-writing sessions
- f) Instructions accompanying each topic
- g) Data transcription conventions
- h) Raters and establishing rating reliability

Site and recruitment procedures

I conducted the study at a major university in the US Midwest during the spring semester of 2013. All ten students in the fourth semester Swahili class were invited to participate in the study, and eight fully participated. The other two had other individual engagements, which sometimes made it impossible for them to attend the scheduled research sessions. The participants were seven undergraduate and three graduate students. They were all citizens of the United States and had English as their first language. Although the sample size was small it was enough of a sample for this study given the fact that a small sample size is typical of qualitative research. The enormous data that resulted from the study also required a smaller sample size that I could handle. An example of a similar study was conducted in 2007 by Mali. In her study, Mali (2007) utilized eight participants to study the issue of negotiation of meaning using students who were studying Zulu as a foreign language. Those students who agreed to participate in my study signed a consent form before the commencement of the study (see Appendix A). I started the data collection by first of all asking participants to fill out a demographic questionnaire so as to get background information about each of them (see Appendix B).

With regards to the pairing of participants for the purposes of the interactive sessions, I used two procedures. I used random pairing for the first seven participants, who were the first to sign consent forms. The other three participants had not signed their consent forms by the time the pairing of participants was undertaken. For that reason, I paired participant number eight with participant number seven, who didn't have a partner when I first did the random pairing. I paired participant number nine with participant number ten. Although some similar studies undertaken in the past failed to specify their procedure of pairing participants (Balke & Zyzik, 2003; Darhower, 2002), random pairing is important because it eliminates systematic bias. Three of the

dyads in the present study ended up being composed of a male and a female while in the fourth and fifth dyads the participants were all female. I kept the same dyads throughout the study.

Software used for chatting

During the S-CMC chats, each participant had their own individual computer. The participants used Facebook's instant message chat interface for their conversations during the S-CMC chat sessions. I chose Facebook instant message because research that was conducted by Bhagwat et al (2013) showed that the majority of people in the United States have Facebook accounts. Facebook's instant message service gives an opportunity for participants to send and receive messages to and from their interlocutors. In the process of writing, participants can edit their messages before sending them. The participants chatted for 20 minutes, after which one participant copied the chat history and pasted it into a Microsoft Word document and sent it to me through email. Swahili uses the Roman alphabet, so there was no need for a special keyboard for participants to input Swahili words. All the participants were computer literate and had Facebook accounts before the study started. For that reason, the participants didn't require any prior training on how to use a computer or how to use a Facebook account.

Procedures used for collecting data

In order to have data for research question 1, I invited students to do the following:

- (1) fill out a simple questionnaire in English about their study of Swahili
- (2) participate in five twenty minute Facebook chats in Swahili scheduled throughout the duration of the Spring semester on a bi-weekly basis and to subsequently write an essay on the topic of the preceding chat for a period of thirty minutes.

I used the initial questionnaire (Appendix B) to find out: (a) the length of time a participant has been studying Swahili; (b) goals that the participants have in studying Swahili; (c) participants' experience in writing Swahili; and (d) how each participant rated their skills in writing essays in Swahili. I allowed participants to skip any questions that they did not wish to answer. I provide a summary of demographic information about the participants in Table 3.1. The mean age of the ten participants was 21.8 years. The mean length of their study of Swahili was 3.7 semesters. Three of the participants were male and seven were female. Four of the participants planned to major or minor in the department that offers Swahili. Two indicated that they were learning Swahili in order to fulfill language requirements. One mentioned that she is married to a Kenyan and was studying Swahili in order to live in East Africa. Four of the participants rated their Swahili writing to be good, while two rated their Swahili writing as fair. One of the participants indicated that her Swahili writing is both fair and good, presumably indicating an assessment in between those two labels. I identified the ten participants in this study based on Swahili names: Abdi, Bibi, Chapa, Dalili, Eleza, Furaha, Gaidi, Huria, Inuka and Jirani, respectively.

Table 3.1 Results of initial questionnaire

Item	Data
Gender	3 males: 7 females
Mean age	21.8 years
Mean length of studying Swahili	3.7 semesters
Goals for studying Swahili	(i) Major or minor in African languages with a concentration in Swahili: 4 (ii) Fulfill language requirements: 5 (iii) Personal reasons: 1
Self-rating of Swahili essay writing skill	(i) Good: 4 (ii) Good and Fair: 1

	(iii)Fair 2
Previous experience in taking Swahili writing course	(i) Have taken: 7 (ii) Have not taken: 3

For the five twenty-minute chat sessions, I paired each participant with another participant for the first twenty-minute interactive activities. Participants used their current Facebook account, which they used with their partner throughout the study period. The second part of each session involved writing an essay by hand; I asked each participant to write for no longer than thirty minutes about the topics discussed in the preceding interactive activity. I provided each participant with paper on which to write an essay. I conducted the five S-CMC chats in the computer lab or other offices. Table 3.2 summarizes data collection procedure for research question 1, and Table 3.3 summarizes the data I collected from the S-CMC chat sessions.

Table 3.2 Procedures and timeline of data collection

Week	Activity
Week 2	20-minute S-CMC chat session 30-minutes of post S-CMC chat essay writing in Swahili
Week 4	20-minute S-CMC chat session 30-minutes of post S-CMC chat essay writing in Swahili
Week 6	20-minute S-CMC chat interaction session 30-minutes of post S-CMC chat essay writing in Swahili
Week 9	20-minute S-CMC chat session 30-minutes of S-CMC chat essay writing in Swahili
Week 11	20-minute S-CMC chat session 30-minutes of post S-CMC chat essay writing in Swahili

Table 3.3 Data summary

Data type	Quantity and content
S-CMC chat transcripts	5 S-CMC chat sessions *5 dyads/session 25- 2

	= 23 S-CMC chat transcripts (2 lost due to late entry to the study and early exit from the study, i.e., dyad Chapa/Dalili's S-CMC chat session 2 and session 5)
Essays written immediately after the S-CMC chat	5 S-CMC chat sessions * 50 essays – 4 = 46 post-S-CMC chat session essays (4 lost due to late entry to the study and early exit from the study, i.e., participant Chapa/Dalili essays after Facebook interactive sessions 1 and 5)

Reasons for free-discussion tasks

Four types of tasks have been utilized by researchers in second language S-CMC chat studies: free-discussion tasks, decision-making tasks and jigsaw tasks. Although many studies employed two tasks, others employed a single task type to investigate negotiation of meaning in language-related computer mediated interactions. Examples of these studies are the ones conducted by Lee (2001) and Tudini (2003). Open-ended discussion tasks have been employed to investigate linguistic features such as in the computer mediated interactions study conducted by Jurkowitz (2008). Mali (2007) and Darhower (2002) investigated interactional features using the same open-ended discussion tasks. Jigsaw tasks that are also referred to as information gap exercises require learners to write different essays and then exchange information with others in order to complete a task. Jigsaw tasks have been used in studies such as the ones conducted by Bearden (2001) and Blake & Zyzik (2003).

Jigsaw tasks have been preferred by researchers over other forms of tasks. A reason for this phenomenon is that jig-saw tasks help participants to have meaningful negotiation of meaning and enhance their interactions, as noted in the studies conducted by Long (1983), Pica et al. (1993), Blake & Zyzik (2003) and Blake (2000).

Despite many studies in the past preferring jigsaw tasks over other tasks, I deviated from this norm and adopted free discussions instead, for two main reasons. The first was that I wanted

study participants to have topics that they could easily encounter in a Swahili as a foreign language writing context. Secondly, the study that I conducted contained both interactive writing situations and individual writing situations that called for tasks that suit both. Free discussion tasks happen to suit both writing tasks much better than the jigsaw or information tasks because free discussion tasks are open-ended in nature and participants do not have to reach a common goal during their interactive discussions and their individual essay writing. For these reasons, I did not adopt jigsaw and information gap tasks, as they were not appropriate for this study.

For the S-CMC sessions, I had five free discussion tasks, which I crafted on the basis of ACTFL writing proficiency guidelines for intermediate level students, the Standards for Foreign Language Teaching and the Deep Approach methods of teaching world languages. I assigned the topics to the five pairs at the beginning of the interactive sessions and during their individual essay writing sessions. Table 3.4 summarizes the topics that I assigned during the S-CMC sessions and during the individual essay writing sessions. The topics that I gave the participants were in both English and Swahili.

Table 3.4 Topics assigned during the five S-CMC sessions

Interactive session	Assigned topic
S-CMC chat during week 2	Types of food in East Africa <i>Vyakula vya Afrika Mashariki</i>
S-CMC chat during week 4	The presidents of countries in East Africa <i>Marais wa nchi za Afrika Mashariki</i>
S-CMC chat during week 6	Cities of East Africa <i>Miji mbalimbali ya Afrika Mashariki</i>
S-CMC chat during week 9	Religions of East Africa <i>Dini za Afrika Mashariki</i>
S-CMC chat during week 11	Visiting animal parks and game reserves in East Africa <i>Ziara ya safari katika Afrika Mashariki</i>

Time allocated for both interactive and post essay-writing sessions

The time that I used in this study is similar to a number of other studies (Fernandez-Garcia and Martinez Arbelaiz 2003; Mali 2007; Smith 2005), and thus may allow comparison. I framed the time that I allocated for the S-CMC chat sessions around the 1-hour period that was required for the language table conversation group each week. I assigned twenty minutes for the S-CMC chat sessions while I allocated the individual essay writing thirty minutes. The total amount of time spent during each S-CMC chat session and individual essay writing session was fifty minutes. For all five sessions, participants met for fifty minutes every other week.

Instructions accompanying each topic

I crafted instructions for the S-CMC chat sessions and the individual essay writing sessions. I wrote instructions in both English and Swahili so that they were clear to the study participants. I included with the instructions a number of elements that the participants were required to take into consideration. I provide an example below, whereas a full list is contained in Appendixes C-L.

Today, you and your conversation partner have 20 minutes to discuss the following topic in Swahili with the avoidance of any other language. Try your best to use appropriate vocabulary and correct grammatical structures.

Raters and establishing rating reliability

There were two raters in this study. The independent rater and I were both college-trained near-native speakers of Swahili. At the time of the study the independent rater and I were both graduate students at the university. During the period when I conducted the study both the independent rater and I did not have connection with the research participants. The mechanical

aspects of the study such as counting the number of words used by a dyad or counting the number of words in a turn did not require the services of an independent rater. I manually counted the number of words of the conversations and the essays that participants wrote. On a different note, measures such as accuracy that I rated required me to conduct intra-rater reliability before producing with more reliable final scores. In order to ensure intra-rater reliability, I rated again such measures, one week after rating them for the first time (Shrout, & Fleiss, 1979).

I required the services of the independent rater for two main reasons: first, to rate the interactive transcripts and essays on a number of measures in order to establish inter-rater reliability. The measures that made me seek the services of the independent rater were the focus of the discussion in the S-CMC chat texts, lexical quality, grammatical quality, and content quality. As pertains to the essays, the independent rater and I rated lexical accuracy, syntactic accuracy and richness, content richness, organization, and holistic assessment (see Table 3.5 and Appendix O, respectively).

Secondly, the independent rater and I rated the S-CMC chat transcripts and the essays. The same measures that the independent rater looked at when I conducted inter-rater reliability were also the basis of rating when both the independent rater and I rated the S-CMC chat transcripts and the essays. I adopted an average of both the independent rater's and my ratings for each and every measure that we rated together as the final measure. Table 3.5 below is a summary of the responsibilities that both the independent rater and I had during the rating exercise.

Table 3.5 Summary of who rated what

Type of data	Measure in focus	Researcher rater	Independent rater
S-CMC	a) Focus	Rated 100% in order to	Rated 100% in order to

transcripts	of discussion	get the average.	get the average.
	b) Lexical quality	Rated 100% in order to get the average.	Rated 100% in order to get the average.
	c) Grammatical quality	Rated 100% in order to get the average.	Rated 100% in order to get the average.
	d) Content quality	Rated 100% in order to get the average.	Rated 100% in order to get the average.
	e) Organization	Rated 100% in order to get the average.	Rated 100% in order to get the average.
	f) Holistic assessment	Rated 100% in order to get the average.	Rated 100% in order to get the average.
Essays	a) Lexical accuracy	Rated 100% in order to get the average.	Rated 100% in order to get the average.
	b) Syntactic accuracy	Rated 100% in order to get the average.	Rated 100% in order to get the average.
	c) Syntactic richness	Rated 100% in order to get the average.	Rated 100% in order to get the average.
	d) Content richness	Rated 100% in order to get the average.	Rated 100% in order to get the average.
	e) Organization	Rated 100% in order to get the average.	Rated 100% in order to get the average.
	f) Holistic assessment	Rated 100% in order to get the average.	Rated 100% in order to get the average.

Although the independent rater already had some experience in assessing students studying Swahili as a foreign language, I held a session where I trained her on the rating scales that I developed. I gave the independent rater an opportunity to ask questions related to the rating scales. I also provided opportunities for both of us to practice rating with the data from the pilot study that I had conducted in 2010.

In order to get the inter-rater reliability, I started by first coding all the S-CMC chat scripts. Both the independent rater and I rated all the S-CMC chat scripts. With the essays that participants wrote in Swahili, the independent rater and I did not know the identities of the research participants.

Upon completion of the rating exercise, I determined the inter-rater reliability for both the interactive transcripts and essays by dividing the number of agreements by the total number of ratings that were there as done in a study conducted by Miles and Huberman (1994). For each measure that the independent rater and I rated, I determined the inter-rater reliability by dividing the instances for which the independent rater and I agreed on by the total number of instances of focus areas that we identified. I followed the same procedure for other measures such as grammatical quality, lexical quality and content quality. Table 3.6 summarizes the inter-rater reliability for the given measures within the sample of 46 essays.

Table 3.6 Inter-rater reliabilities for the essays

Measure on focus	Sample size	Percentage of agreement
Lexical accuracy	46 essays	97%
Syntactic accuracy	46 essays	90%
Syntactic richness	46 essays	90%
Content richness	46 essays	90%
Organization	46 essays	59%
Holistic assessment	46 essays	67%

The data in the table above show that 90% agreement was reached on the measures of lexical accuracy, syntactic accuracy, syntactic richness and content richness. This study had 90% as the satisfactory agreement and therefore I got higher figures of more than 90% for inter-rater reliability for the measures of lexical accuracy, syntactic accuracy, syntactic richness and content richness. However I observed lower scores of 59% and 67% for the measures of organization and

holistic assessments. Both of these two measures employed holistic scores, which on many occasions are subjective and therefore differences in the way the independent rater and I rated were expected for these two measures. Getting the average scores of the two raters lowered the effect of subjectivity for the final rating.

Table 3.7 Inter-rater reliabilities for the interactive transcripts

Measure on focus	Sample of data	Percentage of agreement
Focus of discussion	44 interactive scripts	95%
Lexical quality	44 interactive scripts	68%
Grammatical quality	44 interactive scripts	70%
Content quality	44 interactive scripts	64%

For the S-CMC chat transcripts, I reached the inter-rater reliability for the measures of lexical quality, grammatical quality and content quality by dividing the number of agreed scores with the total number of scores. For the focus of the discussion, I reached the inter-rater reliability by dividing the number of agreed instances of focus areas with the total number of focus areas that the independent rater and I identified. Table 3.7 summarizes inter-rater reliabilities scores obtained from the S-CMC chat transcripts.

Data in the table above show that I obtained a high score of 95% for the measure of the focus of the discussion. Since the satisfactory agreement in this study was 90%, I was satisfied with the inter-reliability score for that measure. With the other three measures however, I obtained scores below 90%. There was bound to be subjectivity since I used holistic scales to score the three measures which had scores of less than 90%. This was expected but was easily solved when calculating the final scores by getting an average of the scores that both the independent rater and I had (Cohen, 1988).

Findings for the S-CMC chat transcripts

I used quantitative analysis methods in order to find out the learning that occurred in the S-CMC chat sessions and in the essay writing in Swahili which came immediately after. I had sub-categories in this section: the first one concentrating on the S-CMC chat sessions and the other one concentrating on the essays. With the S-CMC chat sessions, it was important to look at a number of factors in order to establish what type of learning had taken place. These were how much language was produced by the participants, what their focus was when they interacted, and the degree of interaction and collaboration that the participants had. In order to find out how much language the participants produced during the interactive sessions, I employed quantitative methods, which I explain below.

Quantitative analysis of the S-CMC chat transcripts

Using quantitative analysis, I looked at (i) the length of the chats, (ii) the number of turns per participant, (iii) the length of each turn, (iv) the contribution of language in terms of number of words that each participant made during the interaction, and (v) the focus of the discussion. I also calculated standard deviations for each of these categories. The quantitative data that I obtained from these five activities facilitated an understanding of the connection between the interactive performance and subsequent individual performance.

I counted the number of words generated in order to establish the length of the conversation. I used the number of turns produced to measure how frequent communication exchanges occurred in the S-CMC chat. It is important to mention that I calculated mean turn length in words for each of the interlocutors in the dyad as well as for the two participants who

formed a dyad so as to get information about the length of the communication in S-CMC chat sessions. Table 3.8 presents the mean numbers across all twenty three S-CMC chat sessions.

Table 3.8 Mean overall length, mean number of turns, and mean turn length for the S-CMC chat (N=23)

	Mean	Standard Deviation
Number of words	285.17	70.82
Number of turns	25.04	9.29
Turn length in terms of number of words	11.16	9.08

Table 3.9 presents the mean scores by each pair of study participants across each pair's S-CMC chat sessions. Eleza/Furaha had the highest mean length (382.0) of the S-CMC chat. Eleza/Furaha also had the highest mean number of turns, which was 35.4 turns. Inuka/Jirani had the longest mean turn length of 14.44 words.

Table 3.9 Mean length over 5 sessions, number of turns, and turn length by dyad for the S-CMC

	Abdi/Bibi	Chapa/Dalili	Eleza/Furaha	Gaidi/Huria	Inuka/Jirani
Number of words	233.8	257.33	382.0	275.4	266.2
Number of turns	17.4	28.67	35.4	27.8	17.2
Turn length in words	13.44	8.99	10.84	9.90	14.44

Besides calculating the quantitative data for the entire group and for the five pairs, I also calculated data for individual participants in order to find out how each individual interlocutor performed during the S-CMC chat sessions. For that reason, I calculated each participant's mean turn length and contribution percentage in words in order to find out how each participant

performed during the S-CMC chat session. Table 3.10 summarizes these results. The turn length for individual participants in the S-CMC chat sessions ranged from 9.7 to 33.4 words, with the turn length of the majority of individual interlocutors clustering between ten and twenty words. This was a clear indication that participants had similar S-CMC chat in terms of their length.

Table 3.10 Mean turn length for individual interlocutors in the S-CMC chat sessions

Dyad	Participant	Mean turn length in words				
		Activity for week 2	Activity for week 4	Activity for week 6	Activity for week 9	Activity for week 11
1	Abdi	13.78	19.0	10.56	10.22	6.91
	Bibi	18.89	18.14	17.11	13.88	10.6
2	Chapa	NA	NA	8.71	7.89	6.89
	Dalili	NA	NA	10.64	15.0	6.94
3	Eleza	6.21	12.92	16.56	10.33	9.94
	Furaha	8.35	13.31	10.83	9.44	15.47
4	Gaidi	7.47	14.08	11.09	8.18	6.37
	Huria	9.11	15.5	11.36	9.45	9.83
5	Inuka	11.45	17.67	18.22	13.71	15.5
	Jirani	10.5	18.88	20.55	15.0	14.56

I then calculated the language contribution of each participant in terms of a percentage of words. Table 3.11 summarizes these results. Participants during the S-CMC chat sessions had relatively similar percentages of lexical contribution. While the majority of the chat sessions each participant had a lexical contribution from 40% to 60%, it is only in dyads Abdi/Bibi and Chapa/Dalili's S-CMC activities three and four, respectively, that any participant had a lexical contribution which was less than 40%. Taking a close look at the difference in the language contribution of the individual interlocutors in each dyad, out of the twenty three interactive sessions, fifteen had a difference which was less than 10%. The fifteen out of twenty three whose participants had a language contribution difference of less than 10% informed me that each

participant had an equal opportunity at her disposal to interact in Swahili during the S-CMC chat sessions. The pattern in the language contribution findings was similar to the pattern associated with the mean turn lengths of the individual interlocutors that I reported in Table 3.10. From these data, I concluded that interaction and collaboration during the S-CMC chat sessions was relatively equal between interlocutors in all twenty three interactive sessions except Abdi/Bibi and Chapa/Dalili's S-CMC chat sessions three and four.

Table 3.11 Percentages of individual participant language contribution during the S-CMC chat sessions

Dyad	Participant	Language contribution				
		Activity for week 2	Activity for week 4	Activity for week 6	Activity for week 9	Activity for week 11
1	Abdi	42.18%	47.3%	38.15%	45.32%	41.76%
	Bibi	57.82%	52.7%	61.85%	54.68%	58.24%
2	Chapa	N/A	N/A	45.22%	28.28%	49.8%
	Dalili	N/A	N/A	54.78%	71.72%	50.2%
3	Eleza	59.29%	50.73%	40.98%	48.76%	59.34%
	Furaha	40.71%	49.27%	59.02%	51.24%	40.66%
4	Gaidi	45.04%	46.48%	49.39%	46.39%	40.47%
	Huria	54.96%	53.52%	50.61%	53.61%	59.53%
5	Inuka	54.55%	51.61%	46.99%	51.61%	48.63%
	Jirani	45.45%	48.39%	53.01%	48.39%	51.37%

Quantitative data about the nature of the interaction for the whole group at the dyad and individual levels, however, was not enough to conclusively establish the nature of the interaction and collaboration. In my effort to find out the impact of the S-CMC chat sessions on essay writing in Swahili, I wanted to better understand how the participants benefited from each other during the interactive sessions. I therefore undertook an analysis of the S-CMC chat sessions in order to examine (i) the topic of the S-CMC chat and (ii) the interactive conversation in terms of

(a) the lexical quality of the items that were used, (b) the grammatical accuracy of the interaction, and (c) the content richness complexity of the S-CMC chat.

Because this study is grounded in both interactionist and collaborative learning theories, I was also interested in finding out the manner in which participants used negotiation of meaning, comprehensible input and output, and peer collaboration. I could only explore this kind of information by analyzing the transcripts on the basis of (a) the focus of the discussion as espoused in Storch (2005:159) and (b) the nature of vocabulary, grammar, and content generated by the participants. I used the focus of the discussion to find out how participants proceeded with the tasks that were assigned to them. My initial stage of finding out the focus of the discussion was for me to first of all code all the scripts into corresponding focus areas. I coded the interactive transcripts using predefined seven areas of focus that were either pragmatic or metalinguistic, as reflected in Table 3.12.

Table 3.12 New focus areas for analyzing during the S-CMC chat sessions in Swahili

Areas of focus	Explanation
Introductory greetings	A series of turns where participants greeted one another
Managing the task given	A series of turns where participants discussed on how to go about a given task
Prompt interpretation	A series of turns where participants discussed about the instructions given for a particular task
Coming up with ideas	A series of turns where participants came up with ideas for a particular topic
Vocabulary explanation situations	A series of turns when participants discussed concerning how vocabulary was used in the interactive session
Grammar explanation situations	A series of turns when participants discussed concerning how grammar was used in the interactive session
Texts not related to the task	A series of turns when participants engaged in topics which were not related to the task

The importance of the seven focus areas was to show whether the two interactive mediums provided an environment that was beneficial for learning Swahili as a foreign language as espoused in the two theoretical frameworks that I used for this study. For example, did the two interactive mediums (a) provide a conducive environment for participants to negotiate meaning, (b) provide opportunities for participants to focus on form, (c) help participants with opportunities for scaffolding, (d) provide opportunities for comprehensible input and output and (e) help participants to provide support for each other? When I analyzed S-CMC chat scripts, I found that each of the focus areas had a number of instances associated with it and hence I therefore used them to find out the learning that occurred in the S-CMC chat sessions. To ensure objectivity, I also invited the independent rater to rate the S-CMC chat scripts with relation to areas of focus. I obtained an inter-rater reliability of 97.84% for the foci of the discussion. As a case in point Table 3.13 lists the values for the activity o week 6. In Appendix P, I provide a complete list of findings on instances of focus areas and the percentages associated with the other S-CMC chat sessions.

Table 3.13 Focus areas and their percentages in Swahili S-CMC chat session for week 6

Area of focus	Abdi/Bibi	Chapa/Dalili	Eleza/Furaha	Gaidi/Huria	Inuka/Jirani
Social greetings	2 (8%)	2 (6.7%)	2 (4.3%)	3 (12%)	1 (5%)
Task management	2(8%)	0 (0%)	2 (4.3%)	4 (16%)	1 (5%)
Interpreting task prompt	3 (12%)	3 (10%)	1 (2.2%)	0 (0%)	0 (0%)
Generating ideas	13 (52%)	21 (70%)	24 (52.2%)	13 (52%)	18 (90%)
Lexicon-related episodes	2 (8%)	2 (6.7%)	7 (15.2%)	0 (0%)	0 (0%)
Grammar	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

related episodes					
Spelling-related episodes	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Taking leave	2 (8%)	0 (0%)	2 (4%)	1 (4%)	0 (0%)
Talking off-topic	1 (4%)	2 (6.7%)	(13%)	3(12%)	0 (0%)
Total number of instances	25	30	46	25	20

During the S-CMC chats undertaken by the five dyads in the activities for week 6 sessions, participants' focus was on generating ideas more than on the other activities. Each of the five dyads devoted over 50% of the possible instances to generating ideas in the five S-CMC chat sessions that I listed in Table 3.13. In all the S-CMC 23 chat sessions that the participants had, generating ideas had the highest percentages, ranging between 52% and 90%, as shown in Appendix P. Besides generating ideas, the participants also had smaller percentages for the language output, concentrating on social greetings, task management, and interpreting the task prompt. I also noted lexicon-related instances where participants inquired about or clarified the lexicon used by their interlocutors. With reference to spelling and grammar-related instances, it was interesting to discover that participants' language output did not concentrate much on these two focus areas. Participants, however, did have instances when they took leave of each other.

When I finished examining the foci of the discussions, I used quantitative analysis of the transcripts to examine participants' lexical and grammatical accuracy, as well as the richness of the content. I rated these three aspects separately using 5-point holistic scales that I provide in Tables 3.14, 3.15 and 3.16 below. I set up the scoring scales crafted based on the ACTFL

writing proficiency guidelines⁴ for intermediate level students, the Standards for Foreign Language Teaching⁵ and the Deep Approach⁶ methods of teaching world languages.

Table 3.14 5-point holistic scale for lexical quality

Score	Criteria
5	Accurate word and expression choices that demonstrate application and control of lexical items
4	Occasional inaccurate word and expression usages that did not interfere with meaning; some range of lexical items
3	Frequent inaccurate word and expression usages that interfered with meaning; limited range of lexical items
2	Mostly inaccurate word and expression usages that significantly interfered with meaning; little range of lexical items
1	Very limited usage of words or expressions, with errors everywhere; or no assessable language

Table 3.15 5-point holistic scale for grammatical accuracy

Score	Criteria
5	Accurate grammatical usages; a wide range of grammatical features; Application of compound and complex sentences
4	Occasional grammatical inaccuracies that did not affect meaning understanding; some range of grammatical features; a few compound and complex sentences
3	Frequent grammatical inaccuracies that disrupted meaning understanding, even for structures that students had learned for a long time; limited range of grammar features; lack of compound and complex sentences
2	Mostly inaccurate grammatical features; little range of grammatical features; no compound and complex sentences
1	Few sentences with inaccurate grammar in each sentence; or no assessable language

⁴ American Councils (2012). The ACTFL Proficiency Guidelines–Writing (Revised 2012). Retrieved August 31, 2013, from <http://actflproficiencyguidelines2012.org>

⁵ 5Cs of the standards for teaching foreign languages stand for Communication, Culture, Connection, Comparison and Communities Courtesy of the ACTFL website [https://www.actfl.org/advocacy/discover-languages/advocacy/discover-languages/resources-1?pageid=3392](https://www.actfl.org/advocacy/discover-languages/advocacy/discover-languages/advocacy/discover-languages/resources-1?pageid=3392)

⁶ Deep Approach aims developing instructional materials and teaching global languages with important cultural component and authentic setting. It is associated with Prof. Francois Tochon currently based at the University of Wisconsin-Madison. <http://deepapproach.wceruw.org/theory.html>

Table 3.16 5-point holistic scale for content richness

Score	Criteria (content clarity and richness)
5	Has a wide range of ideas; very clear meaning, with no confusion
4	Has some ideas; clear meaning for the most part
3	Has a few ideas; some confusion in meaning and understanding the text
2	Lack of ideas; a lot of confusion in meaning and understanding the text
1	Irrelevant contents; no understandable language; or no assessable language

I calculated an average of the scores that the independent rater and I established with in order to produce with more objective final scores for the three measures. In Table 3.17 below, I provide a summary of the average scores that I obtained for lexical quality, grammatical accuracy and content richness. From the table, it is evident that on a five-point holistic scale, participants had average scores for the three measures ranging from 3.5 to 4.5.

Table 3.17 Mean scores and standard deviations of the three measures of discussion during the twenty three S-CMC chat interactions across participants

	Lexical quality score	Grammatical accuracy score	Content richness score
Mean	3.7	3.5	4.2
Standard Deviation	0.136	0.188	0.160

While in Table 3.17 I provided the average mean scores for all S-CMC chat sessions, it is also important to know how each of the five dyads that participated in the exercise fared in terms of lexicon, grammar and content. Each dyad had five S-CMC chat sessions throughout the study period except for Chapa/Dalili, who had three S-CMC chat sessions. I calculated the average of the three measures above for each dyad and present this in Table 3.18.

3.18 Mean scores for lexical and grammatical accuracy and content quality for each dyad during the S-CMC chat

	Lexical quality	Grammatical accuracy	Content richness
Abdi/Bibi (N=5)	3.75	3.65	4.02
Chapa/Dalili (N=3)	3.57	3.7	4.25
Eleza/Furaha (N=5)	3.6	3.47	4.32
Gaidi/Huria (N=5)	3.77	3.3	4.36
Inuka/Jirani (N=5)	3.77	3.38	4.06

All the participants were provided with an equal environment where they could generate ideas, and interpret and manage the different tasks that they had, collaboratively. Participants socialized by greeting each other in Swahili and had instances when they collaboratively held fruitful discussions on the usage of Swahili lexical items. The transcript data also revealed that participants did not shy away from talking off topic. In a number of instances during the discussions, participants brought in their personal experiences, which were not related very much to the topic at hand, but which usually enhanced their discussions and kept the discussion of the main topics going.

Findings for the essays

Immediately after the S-CMC chat sessions, I conducted an analysis of the essays in 3 ways. First, I analyzed all the essays that were written in order to get a general picture of group performance. In analyzing the essays, the independent rater and I used five constructs: (i) lexical quality, (ii) syntactic quality, (iii) content quality, (iv) spelling accuracy and (v) length.

This was closely followed by an analysis of essays that were written by each individual participant in order to find out performance at the individual level. Third, I analyzed the essays that were written for each session in order to find out if there was any change in group performance over time.

Hamp-Lyons (1991) and Gebril (2006) argue that the assessment of foreign language writing requires a very efficient assessment procedure, which can be used to evaluate a foreign language writer's strengths and weaknesses. I thus developed an assessment scale using two approaches outlined by Turner and Upshur (2002): (a) using empirical methods to derive an assessment scale based on a sample of the participants' essays; and (b) using the objectives of the Swahili curriculum that were based on the standards for teaching foreign languages in the United States.

Content quality, linguistic accuracy, textual structure, and linguistic complexity are some of the elements that I used in the evaluation of the essays that participants wrote after their interactive conversations. I broke down some of the elements further in order to suit my evaluation of the essays that the study participants wrote. For example, within the broad category of "linguistic accuracy," an understanding of the Swahili noun classification system helps me to find out if a study participant utilized linguistic elements such as adjectives, complex verbs, adverbs, and possessive pronouns (Hauner, 2005; Kyeu, 2011; Kyeu, 2012; Thompson and Schleicher, 2001; Mchombo, 1993). It is for this reason that I adopted an understanding of the Swahili noun class system as one of the criteria by which to evaluate the Swahili essays that students wrote immediately after their interactive sessions. I also examined the number of finite and non-finite clauses in an attempt to measure the linguistic complexity of the essays (Ortega, 2003; Abraham, 2003; Kuiken & Veddar, 2008).

I thus adopted an evaluation procedure that was composed of the following five measures: grammatical quality (accurate use of Swahili noun classes and other grammatical elements such as tenses, verb extensions, relative clauses, possessive pronouns and demonstratives), spelling accuracy, lexical quality, content quality, and length of writing. An evaluation of these five constructs provided me with an assessment framework of the Swahili essays. I considered the length of the essay written for examining writing fluency, given that I provided each participant with 30 minutes to write their essay. I calculated the ratio of the words spelled correctly to the total words in each essay. Using lexical items correctly and the ability to have rich and diverse lexical items was a third criterion that I used in evaluating the post interaction essays. I evaluated the content richness and general organization of the Swahili essays written by the participants under the content criterion. Besides the five point criteria that I used to evaluate the Swahili essays that participants wrote immediately after the interactive sessions, I also used a 5-point holistic scale to evaluate the essays holistically. Both the independent rater and I evaluated each of the essays. The sections that follow below give an elaborate explanation of how I evaluated each measure.

Swahili essay writing length

The length of an essay is determined by word count. I counted the total number of Swahili words per essay in order to measure how long the written essays were. I calculated the mean number of Swahili words across all essays in the post S-CMC chat writing. I also calculated the mean number of words in each post interaction essay and for all the participants. I also calculated a standard deviation for the whole group.

Swahili spelling accuracy

Being able to spell words correctly in writing essays is an important indicator of learning to have taken place (Guiles, 1943). For this reason, I looked at spelling accuracy in the essays that participants wrote. In this study, I required participants to write their Swahili essays by hand. I counted all words that were correctly spelled and calculated a ratio of correct spelling against the total number of words that were written. I therefore represented spelling accuracy using the percentage that resulted from this ratio. I calculated the spelling accuracy for each essay that resulted from the S-CMC chat sessions. I also calculated mean spelling accuracy for the Swahili essays that the study participants wrote immediately after the S-CMC chat sessions. I also calculated standard deviations for the whole group and for the post S-CMC chat essays that participants wrote in Swahili.

Swahili essay writing lexical quality

In this study, I assessed lexical quality in writing Swahili by finding out if the lexical items used by a participant (i) were accurate and appropriate; and (ii) were rich. Accurate and appropriate lexical items were those that could easily be associated with Standard Swahili. I obtained the accurate and appropriate lexical item ratio by dividing the total number of accurate and appropriate number of lexical items with the total number of lexical items in an essay that a participant wrote in Swahili. I obtained the richness of the lexical items that a participant used by dividing the number of appropriate lexical items that a participant used in an essay with the total number of lexical items that a participant used in that particular essay. I also calculated the means of the lexical accuracy and richness for S-CMC chat across learners and for the whole

group. I also calculated standard deviations for the whole group and for individual post S-CMC chat essays that participants wrote in Swahili.

Swahili essay writing grammar quality

In this study I evaluated two aspects of grammar at the syntactic level. These were the (i) correct use of the Swahili nouns and other linguistic elements at the syntactic level; and (ii) the richness of the grammatical elements that participants used at the syntactic level. I assessed syntactical richness by finding a ratio of different syntactical structures that a participant used in an essay with the total number of syntactical structures that appeared in each essay. The grammar features that I examined in this study were the correct use of subject prefixes and tense prefixes in complex verbs, the correct use of associative markers, object markers, relative clauses, adjectival prefixes and adverbial prefixes, word order, conjunctions such as ‘katika’ and ‘kwamba’, copula, and locatives ‘-po’, ‘-ko’ and ‘-mo’ (Hauner, 2005; Kyeu, 2011; Kyeu, 2012; Thompson and Schleicher, 2001; Mchombo, 1993).

I obtained the syntactic accuracy ratio by dividing the correct number of syntactic items with the total number of syntactic items used. In Swahili, there are certain syntactic words that are used as a pair. Examples of these are ‘kulikuwa na’, and ‘nilikuwa na’ which I counted as one syntactic item. Both the researcher and the independent rater rated the measure of syntactic accuracy in all the essays that participants wrote. I calculated the means of the syntactic accuracy and richness across learners and for the whole group. I also calculated standard deviation for the whole group and for individual post S-CMC chat essays that participants wrote in Swahili.

Swahili essay writing content quality

In order to evaluate content richness, the independent rater and I divided the total number of “idea units” by the total number of sentences in each essay. I defined an idea unit as a segment of Swahili text that was self-contained in terms of its expression of meaning. I provide an example of an idea unit below:

Participant	Writing session	Idea unit number	Idea unit
Abdi	1, which came after the S-CMC chat	25	Ninapenda kula sana..(I love eating a lot.)

In order to measure content quality, I also rated the organization of an essay. Under content organization, I evaluated the logical flow of ideas and appropriate use of cohesive devices (Paulus & Chiang 1999). Both the researcher and the independent rater evaluated essay organization using a holistic scale and I calculated the average to come up with an objective final score. I provide the holistic scale that the independent rater and I used in Table 3.19. I crafted the descriptions in the table using ACTFL proficiency guidelines for writing. I calculated a content score of each individual essay and found the mean content score across all participants and for the whole group. I also calculated standard deviations for the whole group and for individual post interaction essay writing.

The independent rater and I also evaluated the essays holistically (see Appendix O) using a 5-point scale in order to come up with a more general score for each essay that the participants wrote.

Table 3.19 Holistic rating scale used to assess essay organization

Score	Criteria (textual structure; linking of ideas; use of cohesive devices)
5	Logical sequence of ideas; cohesiveness on both sentence and paragraph level; meaning that was very clear, with no confusion
4	Some sequence of ideas; sentence level cohesion that was good; some paragraph level coherence; clear meaning, for the most part
3	Sequencing of ideas that was weak; some sentence level cohesion; frequent lack of paragraph level cohesion; occasional confusion in meaning understanding
2	Text that was not coherent; sentence and paragraph level cohesion that was lacking; a lot confusion in meaning understanding
1	No understandable language; no assessable language

I calculated an average of the scores that the independent rater and I got in order to come up with an objective final holistic score for each individual essay. I also calculated the mean holistic scores across participants and for the whole group. I calculated standard deviations for the whole group and for individual post interaction essay writing.

Table 3.20 presents the mean scores of all 46 essays that the participants wrote immediately after their S-CMC chats. The mean length of all the essays that participants wrote was 236.17 words, a score that had a standard deviation of 58.78. The mean scores for the other elements of interest were relatively high as well, with mean scores of more than 90% for spelling accuracy, lexical accuracy, and syntactic accuracy. I also found that syntactic richness and lexical richness had relatively similar scores, with the former having 52.39%, and the latter receiving 56.87%. I found a mean of 71.39% for content richness, a value that had a standard deviation of 1.94. On a 5-point scale, I recorded mean values of 3.70 and 3.54 for organization and holistic scores.

Table 3.20 Mean scores of all essays that participants wrote immediately after the S-CMC chat sessions. (N=46)

	NoW	SpA	LA	LR	SA	SR	CR	O (5 point scale)	HA (5- point scale)
Mean	236.17	96.65%	97.8%	56.87%	91.76	52.39%	71.39%	3.70	3.54
Standard Deviation	58.8	0.822	0.71	1.35	0.91	1.41	1.94	0.18	0.19

Legend: NoW- Number of Words; SpA- Spelling accuracy; LA- Lexical Accuracy; LR- Lexical Richness; SA- Syntactic Accuracy; SR- Syntactic Richness; CR- Content Richness; O- Organization; HA- Holistic Assessment.

Table 3.21 summarizes the individual students' data.

Table 3.21 Mean values of the 5 essays by each participant

	A	B	C	D	E	F	G	H	I	J
Number of words	269.2	280	151.8	188.7	241.4	249.2	242.6	214.2	253.6	244
Spelling accuracy	97.2 %	97.25 %	96.6%	95.5 %	96.6 %	96.6 %	96.6 %	97.1 %	95.8 %	96.9 %
Lexical accuracy	98%	97.25 %	97.6%	98%	98.3 %	97.7 %	97.8 %	97.4 %	97.9 %	98%
Lexical richness	57.5 %	56.2 %	57.1%	56.5 %	56.6 %	57% %	56.3 %	57.8 %	57.1 %	57.1 %
Syntacti c accuracy	91.9 %	91.5 %	91.75 %	91.83 %	91.8 %	91.9 %	91.3 %	91.5 %	92.1 %	92% %
Syntacti c richness	52.3 %	52.1 %	51.25 %	53.5 %	52.1 %	52.9 %	52.2 %	53.4 %	51.9 %	52.5 %
Content richness	71.6 %	69.9 %	71.8%	70.7 %	70.9 %	70.9 %	70.8 %	75.3 %	71.9 %	71.1 %
Organiza tion	3.79	3.7	3.5	3.81	3.85	3.6	3.75	3.64	3.79	3.61
Holistic assessme nt	3.5	3.5	3.5	3.53	3.65	3.53	3.51	3.54	3.62	3.47

* A-Abdi; B- Bibi; C- Chapa; D- Dalili; E- Eleza; F- Furaha; G- Gaidi; H- Huria; I- Inuka; J- Jirani

Bibi produced the longest essays, averaging 280 words. This was interesting because the dyad in which she participated had the smallest mean in terms of the length of the conversations. Chapa had the shortest essays, averaging 151.8 words. All of the participants had high spelling accuracy, with the lowest average score being 95.5%. Among the ten study participants, Huria had the highest average lexical and content richness scores, 57.8%, and 75.3%, respectively. Huria also had a very high average syntactic richness score, surpassed only by participant Dalili by a difference of 0.1%. Going back to the S-CMC chat scripts, the Gaidi/Huria dyad had the highest lexical and content quality scores. Although participant Bibi wrote the longest essays, she received the lowest average lexical and content richness scores among the ten participants. Her scores were 56.2% and 69.9%, respectively. With regards to the organization and holistic assessment scores, participant Eleza had the highest scores, of 3.85 and 3.65, respectively.

Findings for essays emanating from individual sessions

In addition to analyzing the overall essay writing of each study participant, I also analyzed each writing session. I did this in order to find out if there were changes across the five sessions. Table 3.22 summarizes the essay writing sessions.

Table 3.22 Mean score of each writing session across participants

	Writing activity for week 2	Writing activity for week 4	Writing activity for week 6	Writing activity for week 9	Writing activity for week 11
Number of words	254.9	243.8	256.5	205.7	220.6
Spelling accuracy	97.4	96.5	96.9	96.75	96.75
Lexical accuracy	97.75	97.7	98.1	97.75	97.88

Lexical richness	58.63	56.85	57.4	56.28	57.56
Syntactic accuracy	91.5	92.3	92.2	91.4	91.19
Syntactic richness	51.69	52.6	52.4	52.75	52.38
Content richness	71.44	71.9	72.1	70.36	72
Organization	3.73	3.77	3.72	3.62	3.68
Holistic assessment	3.4	3.61	3.54	3.59	3.54

The mean values for the essay length indicate that the study participants started at a high note during the first writing session but then the figure dropped a little during the second writing session. During the third writing session, I noted an increase in the mean length of the essays, but the figures dropped a little again during the fourth and fifth writing session. The mean essay length for writing session one was 254.9 words. Compared to the 4th session, I observed a decrease of about 30 words in the average length of essays during the last session. Despite there being a gradual decrease in the length of the essays that were written, I did not note any meaningful positive change with the other constructs. The small changes that I noted were in the constructs of the lexical, syntactic, and content richness, and the organization and holistic scores. These small changes that I noted from one session to another may be a reflection of the difficulty level that different topics had in the five writing sessions. Of the five writing sessions, for example, as presented in Table 3.22, the participants had a higher lexical richness in session five than in the other four sessions. This clearly indicated that the participants knew more vocabulary about the topic *Ziara ya safari Afrika ya Mashariki* ‘Visiting animal parks and game reserves in East Africa’ than for the topics in the previous sessions. Another example was associated with the construct of syntactic richness, where I associated a percentage of 52.75 with the topic for session four, while the other four sessions had figures that were a little lower.

Having examined the S-CMC chats and the essays separately, I now turn to the effects of the S-CMCs on the essays.

Effects of S-CMC on essay writing

I did two forms of analyses to assess the relationships between S-CMC chats and the writing that came immediately after: (i) correlation analysis⁷ and (ii) transfer analysis.

I undertook correlation analysis (Agresti & Finlay, 2009) in order to find out if there were any possible relationships between S-CMC chat and the essays that participants wrote immediately after. I used .05 as a threshold for a *p*-value. If it was lower than .05, there was a statistically significant relationship between the two tested variables. With the correlation analysis, I looked into issues such as the length of the script that emanated from the S-CMC chat between the participants in Swahili and the length of the individual essays that participants wrote in Swahili afterwards. Other elements that I used correlation for were lexical, grammatical and content quality during the S-CMC chat and how they could be correlated with the post-interaction individual essays that participants wrote. I calculated the Pearson correlation coefficients (Agresti & Finlay, 2009) in order to find out the relationships between the texts emanating from the S-CMC chat sessions and the essays that participants wrote in Swahili.

Correlations between S-CMC chats and essay writing

I conducted correlations between the following constructs in relation to each S-CMC chat session and the essays that participants wrote immediately after it:

- (i) length

⁷ Pearson correlation coefficients measures the strength and direction of the linear relationship between two variables (Agresti & Finlay, 2009:270)

- (ii) lexical accuracy
- (iii) lexical richness
- (iv) syntactic accuracy
- (v) syntactic richness
- (vi) content richness
- (vii) organization

Table 3.23 below gives a summary of the results from the correlation analysis.

Table 3.23 Pearson correlation coefficients between S-CMC chats and essays that participants wrote afterwards (N=10)

S-CMC	Essay	<i>r</i>	<i>p</i> (<.05, 2-tailed)
length	essay length	0.11. A weak positive correlation	0.762
lexical quality	lexical accuracy	-0.49. A moderate negative correlation	0.151
lexical quality	lexical richness	-0.28. A weak negative correlation	0.433
grammatical quality	syntactic accuracy	-0.14. A weak negative correlation	0.7
grammatical quality	syntactic richness	0.32. A weak positive correlation	0.367
content quality	content richness	0.38. A moderate positive correlation	0.279
content quality	organization	-0.2. A weak negative correlation	0.58

As reflected in Table 3.23, I did not find any significant relationship between the S-CMC and the essays that participants wrote afterwards.

Findings for transfer from S-CMC chat to essay writing

I did a transfer analysis to find out if there were items that participants transferred from the S-CMC chat sessions to the essay writing that they did in Swahili. My analysis of possible transfers concerned two elements:

- (i) Lexical, syntactical, idea units and organization in the essays that were similar to the ones in the S-CMC chat transcripts
- (ii) Language-related meaning negotiations that participants transferred from the S-CMC chats to the essays.

Table 3.24 summarizes my results. There were a number of elements that participants transferred from their interlocutors during the S-CMC chats to the essays that they wrote. I provided in the form of percentages the lexical items, syntactic items, and idea units that were present in both the essays and the S-CMC chats transcripts.

Table 3.24 Percentages of transfers from the S-CMC chats to the essays

Essay	Participant	Percentage found in the S-CMC session		
		Lexical items	Syntactic structures	Idea units
Dyad Abdi/Bibi essay 4	Abdi	80.1%	70.1%	74.6%
	Bibi	81.3%	81.8%	66.9%
Dyad Chapa/Dalili essay 3	Chapa	73.9%	74.8%	57.9%
	Dalili	65.1%	75.1%	82.9%

Table 3.24 above clearly indicates that there was a transfer or similar wording of lexical, syntactical and idea units from the S-CMC chats to the essays that were later written by the participants. Looking at the syntactical structure column for example, the data reflect that participants Abdi / Bibi and Chapa / Dalili already had those structures in their S-CMC chat

transcripts before the structures appeared in the essays that they wrote afterwards. Grammar structures in a percentage range of 70% to 81% already existed in their S-CMC before they resurfaced in their essays. For example: In essay 4, Abdi wrote “*Alisema kwamba wakati alienda nchini Kenya aliona watu waislamu wengi na waliimba sana wakati waliomba*”⁸ [She said that when they went to Kenya she saw many Muslims and they sang a lot when they prayed]. Abdi’s essay references Bibi’s statements in S-CMC transcript 4 and 12, “*Wakati nilienda Kenya, watu wengi ni Islam...Niliona watu katika Kenya, watu Baadhi walienda kanisa na watu wengine walienda mahali na kuomba*”⁹ [When I went to Kenya many people are Muslims...I saw many people in Kenya, Some of them went to church and others went to places to pray]. In a second example, Bibi wrote the following in essay 4, “*wakati watu walienda Afrika, juu ya historia, watu walileta dini mpiya na Afrika.*” [When people went to Africa about history, they brought new religion to Africa.] This statement mirrored Abdi’s statement in the S-CMC transcript, “*Na Waarabu wanaleta Islam, na halafu, wakoloni wa Ulaya wanaleta dini ya Ulaya, kama Katoliki. Na sasa kuna mchanganyiko wa dini.*” [And the Arabs brought Islam, and then, European colonialist brought European religion such as Catholicism. And now there is a mixture of religions.]

In the essay that he wrote immediately after the S-CMC chat session four, Abdi transferred content that required the lexical item *wakati* ‘time’ that his conversation partner Bibi used during the discussion period. On her part, Bibi applied the verb *leta* ‘bring’ in her essay, which was frequently used by her partner, Abdi, during the S-CMC chat session.

⁸ The text contains an error. The correct version should be “*Alisema kwamba wakati alienda nchini Kenya aliona watu wengi Waislamu na waliimba sana wakati waliomba.*”

⁹ The text contains some errors. The correct version should be, “*Wakati nilienda Kenya, watu wengi walikuwa Waislamu...Niliona watu Kenya, baadhi yao walienda kanisani na watu wengine walienda mahali pengine na kuomba.*”

Participants transferred even more syntactical structures than lexical structures from their S-CMC chats to their essays. This percentage ranged between 70% and 81.8%. In the example from Dalili's essay 3 that I provide, She wrote, "*Tanzania, alienda kwa eropleni na alipofika kwa uwanja wa ndege wa Kilimanjaro, yeye alitembelea Bukoba, Arusha, Moshi na Kilimanjaro tu.*" [To Tanzania she went by airplane and when she arrived in Kilimanjaro airport, she only visited Bukoba, Arusha, Moshi and Kilimanjaro.] Dalili's statement from the essay directly references Chapa's statements in S-CMC chat transcript 6, 11, 12, 14 and 18, "*Nilitembelea Moshi pia lakini sikukaa katika mji. Mimi nilitembelea Moshi, lakini sikutembelea mji ya Kilimanjaro au Arusha. Kwa mfano, uwanja wa ndege unaitwa Kilimnajarō. Nilienda Moshi wakati nilienda Bukoba. Nilitembelea mji wa Arusha, Kilimanjaro, Moshi na Bukoba.*" [I visited Moshi as well but I didn't stay in the city. I visited Moshi, but I did not visit the city of Kilimanjaro nor Arusha. For example, the airport is called Kilimanjaro. I went to Moshi when I went to Bukoba. I visited the city of Arusha, Kilimanjaro, Moshi and Bukoba.]

With reference to the content of the participants' writing and S-CMC chat sessions, I noted that a percentage ranging between 57% and 82.9% of idea units that were in the four essays were already expressed by their partners during their S-CMC sessions. For example, in Abdi's essay 4, he wrote, "*Wakati watu walienda Afrika juu ya historia, watu walileta dini mpiya na Afrika walileta katoliki na Islam pia.*" [In history, when people went to Africa, people brought new religion and in Africa, they brought Catholicism and <L2>Islam</L2> as well.] Abdi's statement from the essay directly references Bibi's statements in S-CMC chat transcript 9 and 11, "*ah ndiyo. Na kuna dini ya kienyeji pia? (dini ni religion kwa kiingereza). sawa. ninajua kidogo. Kabla wakoloni walifika Afrika mashariki, ilikuwa na dini ya kienyeji. Na Waarabu wanaleta Islam na halafu, wakoloni wa Ulaya wanaleta dini ya Ulaya, kama Katoliki. Na sasa*

kuna mchanganiko wa dini.”¹⁰ [Oh yes. And there is traditional religion also? Okay, (Is religion <L2>religion</L2 in English). I know a little. Before colonialists came to East Africa, there was traditional religion. And Arabs brought Islam and then, European colonialists brought European religion, such as Catholicism. And now there is a mixture of religions. Bibi fully integrated into her writing information that she got from her interlocutor (or she already had) concerning how Islam and Christianity came to East Africa from Middle Eastern countries and Europe.

Participants Bibi and Dalili’s essay writing benefited significantly from their preceding S-CMC chat sessions. It is, however, important to state that participants Bibi and Dalili also included some elaborations in addition to what they got from their preceding S-CMC chat sessions. Participant Abdi also integrated into his writing ideas that he produced together with ideas that were initiated by his partner. However, I noted that participant Abdi re-sequenced the ideas that he got from the discussion in his attempt to add the knowledge that he also had concerning Islam and Christianity and how the two religions came to East Africa. Regarding participant Chapa, her essay also benefited from the S-CMC chat that she had with participant Dalili. The ideas concerning other cities in Tanzania that she used in her essay came directly from her partner. In addition to that, Chapa also added more information about the cities that she has visited in Tanzania. Generally, data from the participants that I analyzed in this section reflected that their essay writing benefited from the discussion that they had during their S-CMC chat sessions, but that they occasionally also brought in additional ideas, elaborations, modifications and re-sequencing of ideas.

¹⁰ The text contains some errors. The correct version should be, “ah ndiyo. Na kuna dini za kienyeji pia? (dini ni religion kwa kiingereza). sawa. ninajua kidogo. Kabla wakoloni kufika, Afrika mashariki ilikuwa na dini za kienyeji. Na Waarabu walileta dini ya kislamu na halafu, wakoloni wa Ulaya walileta dini ya Ulaya, kama Katoliki. Na sasa kuna mchanganiko wa dini.

The second part of the transfer analysis that I did in this section concerned how participants transferred lexicon-related episodes from the S-CMC chats to the essays that they wrote afterwards as I mentioned in the introductory paragraph of this section. For example, Abdi's essay 4 included episodes from their chat. He wrote, "*Bibi alisema kwamba halijui maana ya neno "dini" ...Yeye anachoka sana! Maana ya "dini" ni kwa karatasi na hata katika Kiingereza. Halafu Bibi anaona karatasi, alikumbuka maana ya neno "dini" na yeye alisema kwamba kuna dini zingine nchini Kenya, kama dini wa Kristo.*"¹¹ [Bibi said that she didn't know the meaning of the word "religion"... She was very tired! The meaning of "religion" is on the paper and it is also provided in English. And then Bibi looked at the paper, and remembered the meaning of the word "religion" and she said there are other religions in Kenya, such as Christian religion.] Abdi made the above statement in response to the questions that were posed by Bibi about the meaning of the word 'religion' in S-CMC chat transcripts 5, 6, 7, and 8. The questions are visible in the exchange that transpires between them, "Abdi: *sawa, na kuna dini nyingine nchini Kenya?* Bibi: *dini ni nini?* Abdi: *dini ni kwa kiingereza. unaona karatasi?* Bibi: *pole, niliona karatasi, ninajua sasa.*" 'Abdi: Okay then, and there are other religions in Kenya. Bibi: what is religion? Abdi: religion is religion in English. Can you see it on the paper? Bibi: I'm sorry, I have seen the paper, I now know. In the example that I provided above it is clear that participants Abdi and Bibi had lexicon-related episodes that Abdi transferred to his essay writing. When participant Bibi asked about the meaning of the word *dini* 'religion', Abdi explained the meaning and also assisted her in locating where its explanation was in the

¹¹ The text contains some errors. The correct version should be, "Bibi alisema kwamba hajui maana ya neno "dini" ...Yeye alikuwa amechoka sana! Maana ya "dini" ipo kwa karatasi na hata katika Kiingereza. Halafu Bibi aliona karatasi, alikumbuka maana ya neno "dini" na yeye alisema kwamba kuna dini nyingine nchini Kenya, kama dini ya kikristo."

instruction paper that they both received from the researcher. Interestingly, Abdi mentioned this lexicon-related meaning negotiation episode in the essay that he wrote afterwards.

There were instances when lexicon-related negotiation of meaning didn't amount to transfer of lexical items to their essay. For example, in both Chapa's and Dalili's essay 3, nothing referenced the lexically triggered negotiation of meaning that is reflected in their S-CMC chat transcripts 21, 22, 23 and 24. The statements are as follows, "Dalili: *Safi. Katika miji ya Tanzania kuna mahali pwa (?) basi* (bus depots). *Mahali pwa basi pani have watu wengi!* Chapa: *Ndio. Lakini sikutembelea sehemu ya basi.* Dalili: *Sehemu ya basi ni bus depots?* Chapa : *sijui @ sehemu ni place.* Dalili : *@ ! Asante sana. Hukutembelea sehemu za basi nchini Tanzania?*"¹² [Dalili: Okay. In the cities in Tanzania there are places for buses (bus depots). The place for buses has many people! Chapa: Yes. But I didn't visit the place for buses. Dalili: Is the place for buses <L2>bus depots</L2? Chapa: I don't know @ place is <L2>place</L2. Dalili: @ ! Thanks a lot. You didn't visit a place for buses in Tanzania?]

Table 3.25 below provides a complete picture of the lexicon-related negotiation of meaning episodes that participants transferred from their S-CMC chat sessions to the essays that they wrote in Swahili immediately after the discussions.

Table 3.25 Lexicon-based meaning negotiations that were transferred from the S-CMC chats to the essays

Number of lexical items that participants negotiated during the S-CMC chats	Number of negotiated lexical items that were used in the essays	
	By participants who explained the word	By participants who received explanation of the

¹² The Swahili sections of the text contain some errors. The correct version should be, "Dalili: Safi. Katika miji ya Tanzania kuna mahali pa (?) basi (bus depots). Mahali pa basi pana have watu wengi! Chapa: Ndio. Lakini sikutembelea sehemu ya basi. Dalili: Sehemu ya basi ni bus depots? Chapa : sijui @ sehemu ni place. Dalili : @ ! Asante sana. Hukutembelea sehemu za basi nchini Tanzania?"

		word
5	3	1

From Table 3.25, participants had 5 instances of lexically triggered negotiation of meaning during their S-CMC chat sessions. Participants who explained the words transferred three of the five lexicon-related negotiation of meaning episodes to their essays. One of the participants received explanation from her partner and transferred one of the lexicon-related meaning negotiations to her essay. This was an interesting observation, where learners who received explanations from their partners during the lexicon-related meaning negotiation didn't transfer the negotiated lexical items to their essays, while those who provided explanations included the negotiated lexical items in their essays.

Discussion

During the S-CMC chat sessions, participants had equal environment for interacting using computers, providing them with a similar opportunity to practice in Swahili during their S-CMC chats. The opportunity to interact and collaborate with their fellow participants benefited participants who had low ability in Swahili. It is, however, important to state that with the aspect of equality in interaction and collaboration, there were certain instances where some participants dominated the conversations. The language contribution of some participants appeared similar but their actual roles and interaction were not reciprocal. Storch (2004) argues that when participants have equal participation in an interaction, the flow of information has to come from both sides.

In the five S-CMC chat sessions that the participants had throughout the study period, they spent most of their time generating ideas for the topics they had at hand. Participants also

used the 20 minutes allocated to them to negotiate some of the lexical items that they posed or they received from their interlocutors. Participants wrote their essays with high spelling accuracy, and with accurate lexical and syntactical items. It was, however, important to note that scores that I assigned for lexical and syntactical richness were a little lower.

I also found that participants benefited from the scaffolding that was accorded to them by their interlocutors. The more capable learners provided scaffolding to their interlocutors by giving them ideas and structure for their discussion (Donalton, 1994). In the S-CMC chat, the more capable participants led the discussions and hence provided a productive structure for participants in a conversation to fill in ideas. Participants eventually applied the ideas and content structure that they had in the S-CMC chat to their essay writing. From this observation, I can say that participants assisted their interlocutors within a zone of proximal development (ZPD)¹³ through the ideas that they generated and through providing structures that interlocutors could apply later in their writing.

Besides scaffolding, participants also benefited each other through the linguistic elements that they generated during the S-CMC chat. They benefited each other in terms of spelling, lexical items, and grammatical structures and also from their experiences and ideas. In this study, participants spent much of their time generating ideas during the S-CMC chat, and during the essay writing sessions they tended to apply those ideas to their writing.

The other observation that I made was that when I gave participants a chance to interact in writing during the S-CMC chat sessions, they became very aware of the audience they were writing for. I could tell from the interaction transcripts that as the semester progressed, the students felt much more at ease interacting with each other. Hyland (2002), Hamdaoui (2006)

¹³ Lantolf (2000) defines ZPD as the difference between what a learner can do without help and what he or she can do with help from an expert. It is a cardinal concept of sociocultural theory that was first associated with the Soviet psychologist Lev Vygotsky (1896–1934)

and Weissberg (2006) have argued that writing is a social act and writers need to learn how to interact with their target audience. S-CMC chat interactions in this study provided participants with an opportunity to learn this.

Regarding the relationship between S-CMC chat and the essays that participants wrote afterwards, I did a comparison using lexical, grammatical, content and length measures. The analysis that I conducted did not reveal any significant relationship with the measure of length. I however noted a fairly high similarity in the lexical, syntactical and content measures. In terms of essay organization, my analysis revealed that the participants utilized the general ideas that they got from the S-CMC chat sessions to develop their essays. The participants also transferred lexical items from their S-CMC chat sessions to their essay writing. It was interesting to note that the participants who volunteered to provide explanations of some of the lexical items that their interlocutors asked during the S-CMC chat were the ones who utilized those lexical items in their writing and not the participants who asked about them. In general, the participants generated short essays over the five S-CMC chat sessions.

CHAPTER 4: THE IMPACT OF FACE-TO-FACE CONVERSATIONS ON ESSAY WRITING IN SWAHILI

Do interactive face-to-face oral conversations have an effect on subsequent individual essay writing in Swahili as a foreign language? I present the results for this question in three parts: (i) results of analyzing the conversation transcripts; (ii) the results of analyzing the essays that participants wrote immediately after the face-to-face interactions; and (iii) a discussion of my findings.

Methodology

Part of the methodology that I adopted for research question two was similar to that of research question one. For that reason, I will only mention those sections that relate to research question two.

Procedures used for collecting data

I invited students to participate in five 20-minute face-to-face conversations in Swahili scheduled throughout the duration of the Spring semester at approximately bi-weekly intervals. During the five 20-minute face-to-face sessions, I paired each participant with another participant for the first 20-minute interactive activities. The second part of each session involved writing an essay by hand; I asked each participant to write for no longer than 30 minutes about the topics discussed in the preceding interactive activity. I provided each participant with paper on which to write an essay. I conducted the five face-to-face conversation sessions in an office.

Table 4.1 summarizes the data I collected from the face-to-face sessions

Table 4.1 Data summary

Data type	Quantity and content
Face-to-face conversation transcripts	5 face-to-face sessions *5 dyads/session 25- 3 = 22 face-to-face transcripts (3 lost due to late entry to the study, i.e., dyad Chapa/Dalili's face-to-face session 1, 2 and 5)
Essays written immediately after the face-to-face interactive conversations	5 face-to-face sessions *50 essays – 6 = 44 essays immediately after face-to-face conversations. i.e. participant Chapa/Dalili essays after face-to-face interactive session 1,2 and 5.

Topics assigned during the five interactive sessions

I had five free discussion tasks, which I crafted on the basis of the ACTFL writing proficiency guidelines for intermediate level students, the Deep Approach methods of teaching world languages and the 5Cs of the *Standards for Foreign Language Teaching*. I assigned the topics to the five pairs during the five interactive sessions and during their five individual essay-writing sessions as reflected in Table 4.2.

Table 4.2 Topics assigned during the five face-to-face interactive sessions

Interactive session	Assigned topic
Face-to face conversation during week 1	Modes of transportation in East Africa <i>Aina za usafiri katika Afrika Mashariki</i>
Face-to face conversation during week 3	Kinds of people in East Africa <i>Watu mbalimbali wa nchi za Afrika Mashariki</i>
Face-to face conversation during week 5	Universities and education in East Africa <i>Vyuo vikuu na elimu katika Afrika Mashariki</i>
Face-to face conversation during week 7	Languages of East Africa <i>Lugha mbalimbali za Afrika Mashariki</i>

Face-to face conversation during week 10	Business activities in East Africa <i>Shughuli za biashara katika Afrika Mashariki</i>
--	---

Instructions accompanying each topic

I crafted instructions for the face-to-face sessions and the individual essay writing sessions. I wrote instructions in both English and Swahili so that they may be clear to the study participants. I included with the instructions a number of elements that the participants were required to take into consideration. I provide an example below while a full list is contained in Appendixes C-L.

“Today, you and your conversation partner have 20 minutes to discuss the following topic in Swahili with the avoidance of any other language. Try your best to use appropriate vocabulary and correct grammatical structures.”

Week 12 (face-to-face)

Shughuli za biashara katika Afrika ya Mashariki
(Business activities in East Africa)

Data transcription conventions

Accurate transcription was necessary for the data that I received from the S-CMC chat sessions. There were four primary transcription conventions from Dubois’s revised discourse transcriptions (DT2) that I adopted for this study (Dubois et al., 1991, 1992, 1993): inaudible sections, words in another language, and sections where participants laughed. In Table 4.3 below, I summarize the transcription conventions that I adopted in this study.

Table 4.3 Conventions adopted for transcription

Transcribing indication	Category
###	Sections that were

	unintelligible
@	Laugh pulse
< L2 > WORD < / L2 >	Words spoken in another language

Raters and establishing rating reliability

I used the same independent rater for face-to-face transcripts. I required the services of the independent rater in these research for two main reasons: first, to rate the face-to-face interactive transcripts and essays on a number of measures in order to establish inter-rater reliability and, second, to rate the interactive texts and the essays. The measures that made me seek the services of an independent rater were the focus of the discussion in the face-to-face interactive texts, lexical quality, grammatical quality and content quality. As pertains to the essays, the independent rater rated lexical accuracy, syntactic accuracy and richness, content richness, organization, and holistic assessment (see Appendix O). I adopted the average of both the independent rater and my ratings for each measure that we rated together as the final measure.

Findings from the analysis of the face-to-face conversations

I used quantitative methods to analyze the data that resulted from the face-to-face conversations. I used quantitative analysis to find out the length of the conversations, the number of turns, the length of the turns, and the percentage of language contribution. I also found out the focus of the face-to-face conversations and the quality of the discussions in terms of the lexical items, grammar and content richness.

Quantitative findings from the face-to-face conversations

For the face-to-face conversations, I put participants into dyads where they conversed for 20 minutes in Swahili about an assigned topic. I recorded their conversations and saved them as mp3 files for the purposes of transcription and analysis. Immediately after the face-to-face conversations, the participants spent the next 30 minutes writing an essay on the topic they had just discussed. Participants wrote the essays by hand on paper that I provided them. I analyzed the transcripts that came from the interactive conversations based on: (i) the mean conversation length (in words) of all the face-to-face conversation transcripts, (ii) the mean number of turns for each participant, and (iii) the mean turn length across all 22 face-to-face sessions that the participants had throughout the study. Table 4.4 summarizes the results.

Table 4.4 Mean length, number of turns and turn length of the face-to-face conversation sessions (N=22)

	Mean	Standard Deviation
Number of words	878.8	144.4
Number of turns	134.6	40.3
Turn length in words	7.21	2.71

Going down to the dyad level, in Table 4.5, I present the mean scores for each dyad that was involved in the study. Inuka and Jirani had the highest mean, of 1034.8 words. Gaidi and Huria's dyad had the highest mean number of turns, with a value of 171.6. With turn length, Inuka and Jirani bounced back to have the longest mean turn length, of 9.95, while the dyad involving Gaidi and Huria receded back to have the shortest mean turn length, of 4.9. From the above findings, it is evident that participants performed differently in terms of length of discussion, number of turns and mean turn length. Some participants such as Inuka and Jirani

had the longest mean length of the conversation but that did not mean that they also had the highest number of turns and mean turn length.

Table 4.5 Mean length, number of turns and length of turns in the 22 face-to-face conversation sessions

	Dyad Abdi/Bibi	Dyad Chapa/Dalili	Dyad Eleza/Furaha	Dyad Gaidi/Huria	Dyad Inuka/Jirani
Number of words	873.2	601	890.4	828	1034.8
Number of turns	112.6	103	156.2	171.6	110.8
Turn length in words	8.56	5.83	5.93	4.9	9.95

I also analyzed the linguistic production of individual participants in addition to the group and the dyad data, in order to find out how individual participants performed during the face-to-face conversations. I did this by calculating the language contribution percentage and mean turn length for each participant in every face-to-face interactive session. I calculated the mean turn length by dividing the total number of words generated by individual participants by the number of turns for each participant in every face-to-face conversation session. The mean turn length for all the participants ranged between 3.39 and 15.88 words. The mean turn length for the individual participants was fairly spread out during the face-to-face interactive sessions. 51.85% of the data for the individual mean turn length ranged between 3.39 and 7.18 words per turn, while the rest of the data ranged between 7.63 and 15.9, indicating an unequal pattern of collaboration among participants during their face-to-face conversations sessions. Table 4.6 summarizes this finding.

Table 4.6 Individual participants' mean turn length during the face-to-face interactive conversation sessions

Dyad	Participant	Mean turn length in words				
		Face-to-face 1	Face-to-face 2	Face-to-face 3	Face-to-face 4	Face-to-face 5
Dyad 1	Abdi	6.01	6.6	15	14.86	10.21
	Bibi	5.31	4.28	8.55	8.05	6.9
Dyad 2	Chapa	N/A*	N/A*	6.16	4.63	N/A*
	Dalili	N/A*	N/A*	6.85	5.66	N/A*
Dyad 3	Eleza	5.8	7.63	7.78	4.43	5.03
	Furaha	4.66	4.32	6.92	8.5	4.11
Dyad 4	Gaidi	3.39	4.34	4.91	3.46	3.54
	Huria	5.24	6.23	5.28	5.75	6.15
Dyad 5	Inuka	8.3	10.08	8.81	8.76	15.88
	Jirani	7.15	5.96	8.54	14.3	11.76

Note: * Missing data, hence no analysis was conducted

Table 4.7 presents the percentages for the language contribution based on the number of words for each participant during the face-to-face conversations. In order to find out what the language contribution for a participant was, I divided the total number of words generated by each participant by the total number of words generated in the dyad in each interactive session. Participants had an unequal language contribution. Twelve out of the 22 face-to-face interactive sessions had a difference of 18.56% - 30.18% in terms of their language contribution. The interactive sessions with unequal language contribution were as follows:

- (i) Abdi/Bibi's face-to-face interactive session 2, 3, 4 and 5
- (ii) Eleza/Furaha's face-to-face interactive sessions 2 and 4
- (iii) Gaidi/Huria's face-to-face interactive sessions 1, 2, 4 and 5
- (iv) Inuka/Jirani's face-to-face interactive session 2 and 4

In those 12 face-to-face conversation sessions, participants Abdi and Huria contributed more language than their fellow interlocutors. In dyad Eleza/Furaha, Eleza contributed more language during interactive session 2, while Furaha contributed more during interactive session 4. In dyad Inuka/Jirani, Inuka had more language contribution during interactive sessions 2 and 5, while Jirani contributed more language during interactive session 4. In the examples that I have provided, it is clear that a number of participants dominated the conversation with their talking, hence contributing more language than their counterparts during the conversation.

Table 4.7 Individual participant percentage of language contribution during the face-to-face interactive sessions

Dyad	Participant	Face-to-face 1	Face-to-face 2	Face-to-face 3	Face-to-face 4	Face-to-face 5
Dyad 1	Abdi	53.12%	60.66%	63.07%	64.25%	59.28%
	Bibi	46.88%	39.34%	36.93%	35.75%	40.72%
Dyad 2	Chapa	N/A*	N/A*	47.88%	45.47%	N/A*
	Dalili	N/A*	N/A*	52.12%	54.53%	N/A*
Dyad 3	Eleza	55.47%	65.48%	53.44%	34.91%	52.97%
	Furaha	44.53%	34.52%	46.56%	65.09%	47.03%
Dyad 4	Gaidi	38.77%	40.24%	48.54%	37.79%	36.28%
	Huria	61.23%	59.76%	51.46%	62.21%	63.72%
Dyad 5	Inuka	53.82%	63.74%	50.76%	39.59%	57.45%
	Jirani	46.18%	36.26%	49.24%	61.41%	42.55%

Note: * Missing data, hence no analysis was conducted

Quantitative data about the nature of the interaction for the whole group at the dyad and individual level, however, was not enough to establish the nature of the interaction and collaboration. In my effort to find out the impact of the face-to-face sessions on essay writing in Swahili, I wanted to better understand how the participants benefited from each other during the interactive sessions. I therefore conducted two forms of analysis: (i) analysis of the focus of the discussion topic, and (ii) the face-to-face conversations in terms of lexical quality, grammatical accuracy and content richness.

For the focus of discussion, I first coded all the face-to-face transcripts into focus areas so as to facilitate the analysis. I later on compared the total number of focus areas in the face-to-face interactive conversation transcripts with predetermined focus areas that I adapted from Storch (2005). I did this in order to find out the spread of the different learning foci during the face-to-face interactive sessions. In Table 4.8, I provide data for face-to-face interactive sessions; the rest of the data for the face-to-face interactive sessions is included in Appendix Q.

Table 4.8 Number and percentage of instances of each focus area during the face- to-face interactive sessions

Focus area	Dyad Abdi/Bibi face-to-face conversation 1	Dyad Abdi/Bibi face-to-face conversation 3	Dyad Eleza/Furaha face-to-face conversation 3	Dyad Eleza/Furaha face-to-face conversation 4
Social greetings	5 (23.9%)	3 (4.2%)	0 (0%)	0 (0%)
Task management	2 (4.4%)	1 (1.4%)	1 (1.1%)	2(1.5%)
Interpreting task prompt	(0%)	0 (0%)	0 (0%)	0 (0%)
Generating ideas	33 (71.7%)	66 (92.96%)	91 (95.8%)	131 (95.6%)
Lexicon-related episodes	6 (13.0%)	1 (1.4%)	3 (3.2%)	4 (2.9%)
Grammar-related episodes	0(0%)	0(0%)	0(0%)	0 (0%)
Pronunciation-related episodes	0(0%)	0(0%)	0(0%)	0 (0%)
Talking off-topic	0(0%)	0(0%)	0(0%)	0(0%)
Total number of instances	46	71	95	137

The conversations mostly focused on generating ideas than other activities. Participants accorded a percentage of their talk ranging between 50% and 99% towards generating ideas. Participants in all face-to-face conversation sessions had few instances of lexicon-related meaning negotiation. There were, however, grammar-related episodes, especially between participants Inuka and Jirani. All participants in the study also had instances where they exchanged social greetings at the very introductory stages of their conversation and took leave at the end. I did not come across any pronunciation-related episodes in any of the face-to-face conversations. Other focus areas were insignificant or had no instances.

After identifying focus areas, I examined the face-to-face discussions in terms of three features in all the face-to-face interactive conversation transcripts: lexical quality, grammatical accuracy, and content richness. Using a 5-point scale presented in tables 4.9-4.11 to assess each feature, both the independent researcher and I rated 100% of the face-to-face transcripts and I averaged the scores of both raters in order to get objective final scores.

Table 4.9 5-point holistic scale for lexical quality

Score	Criteria
5	Accurate word and expression choices that demonstrate application and control of lexical items.
4	Occasional inaccurate word and expression usages that did not interfere with meaning; some range of lexical items
3	Frequent inaccurate word and expression usages that interfered with meaning; limited range of lexical items
2	Mostly inaccurate word and expression usages that significantly interfered with meaning; little range of lexical items
1	Very limited usage of words or expressions, with errors everywhere; or no assessable language

Table 4.10 5-point holistic scale for grammatical accuracy

Score	Criteria
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5	Accurate grammatical usages; a wide range of grammatical features; Application of compound and complex sentences
4	Occasional grammatical inaccuracies that did not affect meaning understanding; some range of grammatical features; a few compound and complex sentences
3	Frequent grammatical inaccuracies that disrupted meaning understanding, even for structures that students had learned for a long time; limited range of grammar features; lack of compound and complex sentences
2	Mostly inaccurate grammatical features; little range of grammatical features; no compound and complex sentences
1	Few sentences with inaccurate grammar in each sentence; or no assessable language

Table 4.11 5-point holistic scale for content richness

Score	Criteria (content clarity and richness)
5	Have a wide range of ideas; very clear meaning, with no confusion
4	Have some ideas; clear meaning for the most part
3	Have a few ideas; some confusion in meaning and understanding the text
2	Lack of ideas; a lot of confusion in meaning and understanding the text
1	Irrelevant contents; no understandable language; or no assessable language

I provide averages of the discussion quality scores for all 22 face-to-face conversation sessions in Table 4.12. Average scores for the lexical measure were higher than those for the grammar and content. Based on a 5-point scale, I found a score of 3.7 for the grammatical construct that was the lowest score.

Table 4.12 Average scores for the quality of the discussion for all 22 face-to-face conversation sessions

	Lexical score	Grammatical score	Content score
Mean	4.17	3.7	3.89
Standard Deviation	0.22	0.23	0.24

Besides conducting an analysis of all the face-to-face conversation sessions, I conducted an analysis of each dyad. I presented the results in Table 4.13, with dyad Gaidi / Huria having

the highest scores in the measures of lexical quality, grammatical accuracy and content richness.

Dyad Chapa / Dalili had the lowest scores in all three measures of quality.

Table 4.13 Dyad specific scores for the quality of the discussion for all the face-to-face interactive sessions

	Abdi/ Bibi	Chapa/Dalili	Eleza/Furaha	Gaidi/Huria	Inuka/Jiirani
Lexical score	4.13	3.85	4.18	4.4	4.06
Grammatical score	3.72	3.4	3.56	4.02	3.62
Content score	4.02	3.5	3.94	4.12	3.66

I found an average length of 878.2 words for the face-to-face interactive conversation sessions. I found a value of 134.6 words for the mean number of turns. I also noted an unequal structure in the way that participants interacted and collaborated in Swahili. The face-to-face interactive and collaborative mode of communication helped participants to generate ideas and hold discussions on how they used lexical and grammatical items in the conversation. Participants had more instances of discussing lexical items than grammatical items in their conversations. On a 5-point scale, the mean score associated with the lexical quality of the conversations was 4.17, while grammatical and content had 3.7 and 3.89, respectively.

Analysis of essays

The five writing constructs that I used in analyzing the essays that participants wrote immediately after the face-to-face interactive sessions were as follows:

- (i) Length
- (ii) Spelling accuracy

- (iii) Lexical quality
- (iv) Grammatical quality
- (v) Content quality

In addition to the five writing constructs that I used to analyze the essays, I also analyzed each essay holistically, so as to get a more general evaluation. I primarily used descriptive statistics to analyze the written essays using the five constructs and the holistic construct.

The analysis in this section was threefold: the first analysis included all essays that participants wrote, the second one included the individual essays that participants wrote, and the third one was session-based. Table 4.14 provides scores for all the essays that participants wrote immediately after the face-to-face conversations.

Table 4.14 Mean scores of all the essays that participants wrote immediately after the face-to-face conversations across participants (N=44)

	Mean	Standard Deviation
Number of words	273.7	53.8
Spelling accuracy	98%	0.89
Lexical accuracy	97%	1.01
Lexical richness	52.7%	1.5
Syntactic accuracy	92.02%	1.84
Syntactic richness	45.80%	5.55
Content richness	73.6%	2.8
Organization (based on a 5-point scale)	3.4	0.44
Holistic assessment (based on a 5-point scale)	3.2	0.3

Table 4.15 summarizes the mean scores on essays.

Table 4.15 Average scores for essays for each participant

	A	B	C	D	E	F	G	H	I	J
Number of words	324	315	344.5	234	264.6	237	276	247.2	297.6	215.4
Spelling accuracy	98.2%	98%	97.5%	95.5%	98.6%	98.2%	98.4%	98%	98.2%	97.6%
Lexical accuracy	97.6%	97.4%	97.5%	95.5%	97.2%	97.8%	97%	96.8%	97.4%	95.2%
Lexical richness	55%	53%	53.5%	51%	53.4%	51.6%	51.8%	54%	52.4%	50.6%
Syntactic accuracy	93.6%	92.4%	92%	89.5%	92%	90.2%	90.6%	95%	93.2%	90.2%
Syntactic richness	52.4%	44.6%	47.5%	41.5%	46.4%	41.6%	41.8%	57.2%	42.4%	41.2%
Content richness	75.8%	72.8%	73.5%	71%	74.6%	71.6%	72.2%	79.6%	72.8%	70%
Organization	4.08	3.32	3.75	2.92	3.48	3.0	3.18	4.08	3.28	2.88
Holistic assessment	3.68	3.18	3.15	2.85	3.46	2.92	3	3.6	3.32	2.86

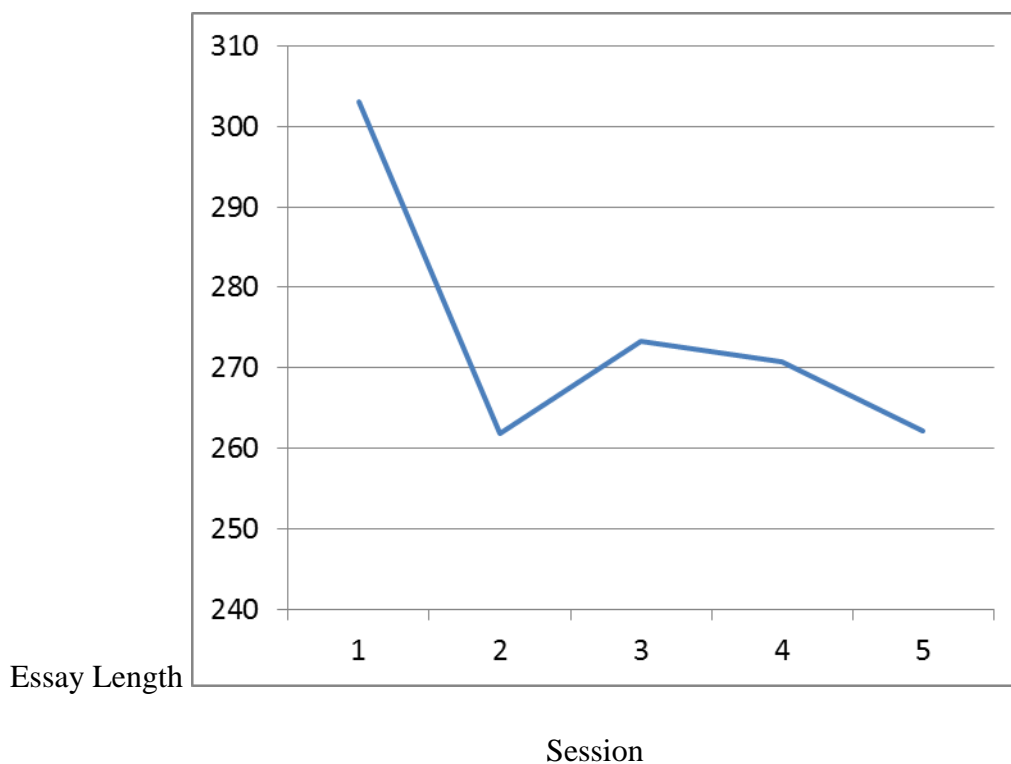
Legend: A- Abdi; B- Bibi; C- Chapa; D- Dalili; E- Eleza; F- Furaha; G- Gaidi; H-Huria; I- Inuka; J- Jirani

Participants in the study had high scores in terms of lexical accuracy in the essays that they wrote immediately after the face-to-face conversations. I found all the scores associated with the construct of lexical accuracy to be higher than 95%. Out of the ten participants, Jirani had the lowest lexical richness and content richness scores of 50.6% and 70%, respectively. In terms of the mean length of the essays that participants wrote immediately after the face-to-face conversation sessions, Chapa had a mean value of 344.5 words, which was the highest among the scores that the ten participants received for their essays. Jirani, on the other hand, generated the shortest essays, with a mean value of 215.4 words. This value was 129.1 words lower than the highest mean value obtained by Chapa. Abdi had the highest mean holistic assessment score, of

3.68. In contrast, Dalili's essays received the lowest holistic score and organization scores, of 2.85 and 2.92, respectively. Interestingly, although participants Inuka and Jirani received the highest scores for conversation length during the face-to-face conversation, this did not translate to both of them having the longest essays. Instead, participant Jirani's mean scores for essay writing were the lowest amongst all 44 essays that participants wrote immediately after the face-to-face conversations. Huria's syntactic accuracy and content richness mean scores were the highest, with values of 95% and 79.6%, respectively. I accorded the lowest mean syntactic richness score to the essays that participant Jirani wrote. These findings clearly showed that face-to-face conversation environment provided participants with an environment where they would interact but not on an equal basis. For example, some participants had a higher language contribution, others had a smaller language contribution in the five face-to-face interactions that they had throughout the study.

Were there any notable changes from one session to another over time? Figure 5.1 below gives a visual presentation of the length construct of all five sessions, while the table in Appendix R gives a general summary of each writing session. Participants generated shorter essays over time throughout the 12-week study period. The mean value of the essays that they wrote during session 5 was lower than the mean value of the essays that they wrote during the first session. I noted a difference of 40.9 words between writing session 5 and writing session 1. With the other constructs, there was no significant trend from writing session 1 to writing session 5.

Figure 5.1 Mean lengths for the five writing sessions that participants had immediately after the face-to-face conversations



I found that when participants wrote their essays immediately after their face-to-face conversations, they generated essays that had a mean length of 273.7 words. Their essay writing that I based on free discussion topics did not seem to improve from writing session 1 to writing session 5 but instead, the mean length dropped by forty words from the first session to the second session. The mean length went up by ten words during the third and fourth sessions but then went down again by 8 words during the fifth session. The ten participants also generated essays that I rated high in terms of spelling, lexical, and syntactic accuracy, with mean scores of more than 90% in each. However, their scores for richness were low, with mean values of 52.7%, 45.8% and 73.6% for lexical richness, syntactic richness and content richness, respectively. On a 5-point scale, I found organization and holistic scores of 3.4 and 3.2, respectively, for the essays. Chapa generated the longest essays, but Abdi had the highest holistic score, of 3.68. This meant

that length did not correlate to quality and this was surprising because majority of the proponents of interaction hypothesis and collaborative theory only emphasize language output without really considering what the quality of the language output is. In contrast, participant Jirani generated the shortest essays of all, with an average value of 215.4 words. She also had the lowest organization score and holistic score among the ten essays that the ten participants wrote. The fact that Inuka and Jirani had the longest face-to-face conversations did not translate to them having longer essays during the essay writing sessions. In fact, Jirani's essays had the lowest mean length of all the essays that the ten study participants wrote.

In the following sections, I report the analysis of both the face-to-face conversations and the essays that participants wrote afterwards. In the section that follows below, I report the effects of face-to-face interactive conversations that the ten participants had on the essays that they wrote in Swahili immediately after their conversations.

Findings for effects of face-to-face interactive conversations on essay writing in Swahili as a foreign language

I analyzed the effect of face-to-face conversations on essay writing in Swahili using two different methods: (i) correlation analysis, and b) transfer analysis. Below, I present results from the analysis of data associated with it.

Findings for correlations between face-to-face interactive conversations and essay writing in Swahili

First and foremost, I looked at the correlation between the face-to-face conversations and the essays that participants wrote immediately afterwards. I used .05 as a threshold for a *p*-value.

If it was lower than .05, there was a statistically significant relationship between the two tested variables. For the correlation analysis, I analyzed the relationship that existed between the following pairs of variables in face-to-face conversations and the essays that participants wrote afterwards: (i) length of the face-to-face conversations and length of the essays, (ii) lexical quality of the face-to-face conversation transcripts and the lexical accuracy scores in the essays, (iii) lexical quality scores in the face-to-face conversation transcripts and the lexical richness scores in the essays, (iv) grammatical quality scores in the face-to-face conversations transcripts and the syntactic accuracy scores in the essays, (v) grammatical quality scores in the face-to-face conversation transcripts and the syntactic richness in the essays, (vi) content scores in the face-to-face conversations transcripts and the scores for content richness in the essays, (vii) content scores in the face-to-face conversation transcripts and the scores for organization in the essays.

Table 4.16 Pearson correlation coefficients between face-to-face conversation transcripts and essays that participants wrote immediately after the conversation sessions (N=10)

Face-to-face	Essay	Correlation (<i>r</i>)	<i>p</i> (<.05, 2-tailed)
Length	Essay length	0.17. A weak negative correlation	0.639
Lexical quality	Lexical accuracy	0. No relationship	1.0
Lexical quality	Lexical richness	0. No relationship	1.0
Grammatical quality	Syntactic accuracy	0.43. A positive moderate correlation	0.215
Grammatical quality	Syntactic richness	0.44. A positive moderate correlation.	0.203
Content quality	Content richness	0.5. A positive weak correlation.	0.141
		0.35. A positive weak correlation.	0.322

Note: * Statistically significant measure, $p < .05$

I did not find significant association between face-to-face conversations and the essays that participants wrote immediately after the conversations. A positive correlation would have been there if any of the p -values in the fourth column would have been less than the alpha value that I had of 0.05. In such a situation, I would have rejected the null hypothesis, but in this situation I failed to reject the null hypothesis for all the relationships that I listed in Table 4.16.

Since there was no cause and effect relationship between the face-to-face conversation transcripts and the essays that participants wrote immediately after the conversations, I thus decided to conduct a transfer analysis in order to get a deeper understanding of the effect that face-to-face conversations had on the essays that the participants wrote immediately after the conversations.

Findings from the transfer analysis

I conducted transfer analysis in order to find out in detail the nature of the transfer that existed between the face-to-face conversations and the essays that participants wrote in Swahili immediately after, first by (a) determining the percentage of lexical, syntactical, idea units and organization that participants transferred from the face-to-face conversations to the essays; and then (b) examining language-related meaning negotiations that participants transferred from the face-to-face conversations to the essays they wrote immediately after the conversations.

In order to conduct the transfer analysis, I drew examples from two out of the five dyads. I chose the two dyads because more language-related meaning negotiations occurred in them than in any other dyad, which allowed for analysis of the data from different standpoints. In Table 4.17 below, I present percentages of lexical, syntactical, and idea units that occurred in both the face-to-face conversations and the essays.

Table 4.17 Similarity of the essays that participants wrote immediately after the conversations and the face-to-face conversations

Essay	Participant	Percentage that I found in the face-to-face conversation session		
		Lexical items	Syntactic structures	Idea units
Dyad Abdi / Bibi's Swahili essay 4	Abdi	90%	71%	91%
	Bibi	83%	71%	76%
Dyad Eleza / Furaha's Swahili essay 3	Eleza	72%	30%	41%
	Furaha	77%	75%	49.7%

As reflected in Table 4.17, I found that the lexical items that participants used during their face-to-face conversations were very similar to the ones that they used in their writing. A percentage ranging from 72 to 90 of the lexical items that I found in the essays that participants wrote in the two dyads, I also found in the transcripts that came from the face-to-face conversations. For example: In essay 4, Abdi wrote, “...*kuhusu historia ya lugha Bantu. Watu Wabantu walitoka Afrika ya maghrebi*”¹⁴ [... about the history of Bantu languages. Bantu people migrated from West Africa.] Abdi's essay 4 statement directly references Bibi's statements in face-to-face transcript 18 and 19, “Abdi: *Lugha Kiswahili ni lugha bantu.... Bibi: Na pia historia ya Afrika ya mashariki watu walisema lugha ya Kifaransa*”¹⁵ [Abdi: Swahili language is of Bantu origin... Bibi: And also in the history of Africa people spoke French.] In terms of the lexical items, participant Abdi utilized the word ‘*lugha*’ from the assignment I gave them. In his

¹⁴ The original text has an error. The correct version should be “...*kuhusu historia ya lugha za kibantu. Watu Wabantu walitoka Afrika ya Magharibi*”

¹⁵ The original text has an error. The correct version should be, “Abdi: *Lugha ya Kiswahili ni lugha ya kibantu.... Bibi: Na pia katika historia ya Afrika ya Mashariki watu walisema lugha ya Kifaransa*”

essay writing, he also utilized the lexical item *historia* from the verbal exchange that transpired between him and Bibi.

With reference to syntactic items, I traced back a percentage of more than 70 of the syntactic structures that were in the essays written by participants Abdi and Bibi, to the face-to-face interactive sessions that came before the essay writing session. In the example from Bibi's essay 4, she wrote, "*Watu wengine wanasema lugha ya Kifaransa kwa sababu historia ya Afrika ya Mashariki kuna watu walitoka faraza na wao walisafiri Afrika ya mashariki na waliwacoloni watu.*"¹⁶ [Some people speak French because in the history of East Africa there are some people who came from France and traveled to Africa and colonized people.] Bibi's essay 4 statement references face-to-face conversation transcript 24 that she had with Abdi, "*Kuna lugha ya Ulaya sana katika Afrika ya Mashariki kwa sababu wakoloni na wa church kisini Wamishonari walikuja Afrika ya mashariki na walifundisha lugha ya ulaya kwa watu wa Afrika ya mashariki.*"¹⁷ [There are many European languages in East Africa because of the colonialists and church. The missionaries came to East Africa and taught European languages to people in East Africa.] As reflected by data in the example, participant Bibi utilized syntactical structures *walisafiri Afrika ya Mashariki* 'they traveled to East Africa' that participant Abdi had as *walikuja Afrika ya Mashariki* 'they came to East Africa' during the face-to-face conversation although in her statement she switched the lexical item *walikuja* 'they came' that Abdi used with *walisafiri* 'they traveled' although from the context of their conversation, Bibi had the idea of colonialists 'traveling' to East Africa and not 'coming' to East Africa.

¹⁶ The original text has an error. The correct version should be, "*Watu wengine wanasema lugha ya Kifaransa kwa sababu katika historia ya Afrika ya Mashariki kuna watu waliotoka Ufaransa na wao walisafiri Afrika ya Mashariki na waliwakoloni watu.*"

¹⁷ The original text has an error. The correct version should be, "*Kuna lugha nyingi za Ulaya katika Afrika ya Mashariki kwa sababu wakoloni na wamishonari walikuja Afrika ya Mashariki na walifundisha lugha za Ulaya kwa watu wa Afrika ya Mashariki.*"

Participants also had an opportunity to transfer idea units from the interactive conversations to their essay writing. Abdi for example had 90.9% of idea units in his essay 4 that I could easily trace back to the face-to-face interactive session 4 that he had with participant Bibi. On the other side, participant Bibi's essays had 74% idea units that I found in the face-to-face conversation that she had with participant Abdi. Participants Gaidi and Huria, however, had the smallest percentage of idea units in their essays that they got from the preceding face-to-face interactive conversations. These percentages were 39 and 49, respectively. For example: In essay 3, Huria wrote, "*Mimi alifundisha sharia ya mazingira katika chuo kikuu cha Uhabeshi. Ninajua kidogo kidogo kuhusu maisha ya wanafunzi wa Afrika ya Mashariki. Wanafunzi wote hawapendi kufanya kazi nyumbani na mazoezi ya darasa, sawa na wanafunzi wamarekani.*"¹⁸ [I taught environmental law at the University of Ethiopia. I know a little bit about student life in East Africa. All students don't like doing homework and classroom exercises, just like American students.] Huria's essay 3 statement, references face-to-face transcripts 47, 49 and 51 that he had with Gaidi, "*Ndio. Nilienda Uhabeshi na nilifundisha sharia katika chuo kikuu Uhabeshi na kwa sababu huu ninajua kidogo kuhusu maisha ya mwanafunzi na kadhalika na sijui wanafunzi ni wanafunzi ni sawa na Marekani, hawapendi kusoma @. Na wanapenda sana kuzungumza na kulala na. Hawapendi kuenda madarasa yao @.*"¹⁹ [Yes I went to Ethiopia and I taught Law at the University of Ethiopia and for this reason, I know a little bit concerning students' life etcetera and I don't know students are the same all over just like in America, they don't like studying @. And they like talking a lot and sleeping and they don't like going to class @.] From the data that

¹⁸ The original text has an error. The correct version should be, "*Mimi nilifundisha sheria ya mazingira katika chuo kikuu cha Uhabeshi. Ninajua kidogo kuhusu maisha ya wanafunzi wa Afrika ya Mashariki. Wanafunzi wote hawapendi kufanya kazi nyumbani na mazoezi ya darasa, sawa na wanafunzi Wamarekani.*"

¹⁹ The original text has an error. The correct version should be, "*Ndiyo. Nilienda Uhabeshi na nilifundisha sheria katika chuo kikuu Uhabeshi na kwa sababu hii ninajua kidogo kuhusu maisha ya wanafunzi na kadhalika na sijui wanafunzi ni wanafunzi ni sawa na Marekani, hawapendi kusoma @. Na wanapenda sana kuzungumza na kulala na hawapendi kwenda madarasani @.*"

I provide, it is evident that participant Huria mentioned the idea ‘students in East African schools are lazy with their academics’ (a real event from his own life) in both the conversation and the essay. This caused his essay to have a very low percentage of idea units that he drew from the conversation because most of the ideas that he had in the essay that he wrote afterwards were his.

Regarding organization in the four essays that participants Abdi, Bibi, Gaidi and Huria wrote, I found from the essay scripts that participants Abdi and Huria followed the sequence of ideas that they had in their face-to-face conversations. Different from Abdi and Bibi, participants Huria and Gaidi didn’t necessarily follow the idea structure that they had in their conversations in their essays. They introduced new idea units in their essay writing with only a small amount of idea units from their face-to-face conversations. The few ideas that Huria and Gaidi introduced from their face-to-face conversations were mostly for the purposes of supporting their arguments. Thus, when study participants moved from their face-to-face interactions to essay writing, they portrayed different organization patterns in their essays. While study participants Abdi and Bibi seemed to transfer the pattern that they had in their face- to-face conversations to their writing, participants Gaidi and Huria came up with organization patterns in their essays that were different from what they had in their conversations. In general, I found that study participants tended to apply to their essays the ideas that they themselves raised during the face-to-face interactive sessions. Participants had a very small-scale application of ideas that their interlocutors raised. My explanation for this was that the face-to-face interaction helped the participants to be very aware of the knowledge that they had for the five topics and not necessarily taking wholesale the ideas that came from their interlocutors.

The transfer of language-related meaning negotiations from the conversation sessions to the essay writing was the second form of transfer that I looked at. It was interesting to note that

while there were a number of lexicon-related meaning negotiations in the conversations, there were only a few that study participants transferred to the essays. For example: In essay 4, Bibi wrote, “*Watu wengine wanasema lugha ya Kifarasa kwa sababu historia ya Afrika ya Mashariki kuna watu walitoka Faraza na wao walisafiri Afrika ya mashariki*”²⁰ [Some people speak French because in the history of East Africa, there are some people who came from France and they traveled to East Africa.] Bibi’s essay 4 statement directly references statements in the 19, 20 and 22 face-to-face transcripts, “*Na pia historia ya Afrika ya mashariki watu walisema lugha ya Kifaransa pengine kwa sababu watu wana wanatoka, Ki.. how do you say France. Faransa. Kifaransa ni French na Faransa ni France.*”²¹ [And also in the history of East Africa people spoke French perhaps because people are from...< L2 >how do you say France< / L2 >. France. French is < L2 >French< / L2 > and France is < L2 >France< / L2 >.]

From the above example, participant Bibi sought to know the translation of the word “France” in Swahili. She posed her question in English but her interlocutor responded in Swahili although he mispronounced the response that he gave back. Bibi went ahead to confirm if participant Abdi gave her the correct word and participant Abdi affirmed by repeating the same word that he mispronounced earlier. Participant Bibi modified the word by dropping the letter ‘n’ and replaced ‘s’ with ‘z’ before applying it to her essay. Modifying the spelling of the lexical item did not correct the original error, but participant Bibi was not interested in the original spelling that her interlocutor provided. Participant Abdi provided participant Bibi with a misspelled word (twice) and never used the word in his essay, either. There were other lexicon-

²⁰ The original text has an error. The correct version should be, “*Watu wengine wanasema lugha ya Kifaransa kwa sababu katika historia ya Afrika ya Mashariki kuna watu waliotoka Ufaransa na wao walisafiri Afrika ya Mashariki*”

²¹ The original text has an error. The correct version should be, “*Na pia katika historia ya Afrika ya Mashariki watu walisema lugha ya Kifaransa pengine kwa sababu watu wanatoka, Ki.. how do you say France. Ufaransa. Kifaransa ni French na Ufaransa ni France.*”

related episodes during the face-to-face conversations that the two participants never transferred to their essay writing session.

In session 3, participants Gaidi and Huria had lexicon-related meaning negotiations. For example: In essay 4, Gaidi wrote, “*Shule katika Kibera inasaidia watoto hivyo kwamba wao wanaweza kuenda chuo.*”²² [School in Kibera helps people to be able to go to college.] Gaidi’s essay 4 statement directly references Huria’s and Gaidi’s face-to-face transcripts 63, 64, 65, 66, 67 and 68, “*Huria: Kuna shule katika Kibera? Gaidi: Ndio, wasichana shule ya wasichana na ndio. Huria: Wanafunzi wa shule hii. Gaidi: Ni watoto. Huria: Watoto? Gaidi: Ndio, wasichana.*” [Huria: There are schools in Kibera? Gaidi: Yes, Girls, girls’ school and yes. Huria: Students of this school. Gaidi: Are children. Huria: Children? Gaidi: Yes, girls.]

In the example above, participant Huria seems not to understand that *wasichana* ‘girls’, can also be *watoto* ‘children’. It takes participant Gaidi to explain to him that *wasichana* ‘girls’ can as well be *watoto* ‘children’.

In order to have a complete picture of how participants transferred lexicon and grammar-related meaning negotiations from face-to-face communication to essay writing, I provide Table 4.18 below to summarize the results from all the dyads and the essays that the 10 participants wrote.

Table 4.18 Transfer of lexicon-related meaning negotiations from face-to-face conversations to essays that participants wrote immediately after the conversations

Number of lexical items negotiated during face-to-face conversation sessions	Number of negotiated items used in essays	
	By participants who explained the word	By participants who received explanation of the word

²² The original text has an error. The correct version should be, “*Shule katika Kibera inasaidia watoto hivi kwamba wanaweza kuenda chuo.*”

20	5	2
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Table 4.18 reflects that when study participants had face-to-face conversations, the lexicon-related meaning negotiations that were triggered were 20. Out of the 20, participants transferred 7 to the essays that they wrote in Swahili afterwards. Table 4.19 provides the results for grammar-related meaning negotiations that were triggered by the face-to-face conversation environment.

Table 4.19 Transfer of grammar-based meaning negotiations from face-to-face conversations to essays that were written after the conversations

Number of grammatical structures that were negotiated during face-to-face communication	Number of negotiated structures used in essays	
	By participants who explained the structure	By participants who received the structure
6	2	2

Table 4.19 shows that there were grammar-related meaning negotiations that participants had during their face-to-face conversations. However, it was only a total of four instances that participants transferred to the essays that they wrote immediately after the conversations.

Discussion

Face-to-face conversations benefited the study participants with reference to the interaction hypothesis. The first of these benefits was that participants were provided with an opportunity to generate comprehensible input and output. The comprehensible input and output came in the form of lexical items, grammatical structures and ideas.

Participants were able to negotiate meaning during the face-to-face interactive sessions. Lexical items for which participants sought the meaning mostly triggered the negotiation of meaning. Interestingly, just as it was with S-CMC chat, participants who sought explanations of lexical items never applied them in their essays but instead participants who provided explanation of the lexical items applied them in their essays. Also, the number of lexical items that were used was very minimal. I found that out of the twenty lexical items that were negotiated, participants only applied five. It is possible that participants were not able to allocate enough time to specific lexical items because the face-to-face conversations had lots of information. Different from the S-CMC chat, I found that participants had grammar-triggered negotiations of meaning during their face-to-face conversations and transferred some of the grammar-triggered negotiations of meaning to their essay writing.

Participants did not transfer as much of the comprehensible input to their essay writing as I found in the S-CMC chat. They only transferred a limited number of syntactic structures and ideas from the face-to-face interactions to their essays. With the results from the transfer analysis, I found that participants developed new ideas in their essays in addition to some that they got from the face-to-face interactive sessions. The study participants had in-depth discussions of topics during the face-to-face conversations, to the extent that they wanted to generate individual ideas for their essays, rather than having a wholesale transfer of ideas that they got from the interactive sessions to their essays. Participants also went ahead to develop new content for their essays that was somewhat different from what they had during the face-to-face interactive sessions. From this, I argue that participants only utilized the face-to-face sessions for brainstorming, which stimulated their generation of ideas that they applied in their essay writing.

Fourth, immediately after the face-to-face conversations, study participants wrote essays that had high spelling, lexical, and syntactic accuracy. This may have been brought about by participants having spelling, lexical items and syntactical structures in their essays that they were confident about. Participants used a moderate percentage of lexical and syntactical structures from their face-to-face conversations in their essays. For lexical and syntactical richness, participants had 52% and 44%, respectively. It is possible that participants had limited lexical and grammatical knowledge to apply in their essay writing because they didn't have enough time to focus on lexical items and grammatical structures during the face-to-face interactive sessions.

Fifth, I found that the length of the essays that the participants wrote either stagnated or kept on decreasing. Again, the decreasing length could have been a result of students getting engaged in other activities in the course of the semester, or the participants were not motivated enough to continue writing long essays because they were not getting a grade for it. Another possible reason that may explain this phenomenon was that, throughout the study, participants were not immersed in Swahili language contexts. Much of their communication before and immediately after the study period for each day switched back to English. In the next paragraph, I will discuss the face-to-face conversations with reference to the collaborative learning theory.

I found that the face-to-face conversations provided the participants with a conducive environment for collaborating. To start with, the face-to-face conversations gave the study participants an opportunity to access each other's linguistic resources, including both lexical items and grammatical structures. The collaborative learning environment also gave the study participants an opportunity to exchange ideas and experiences and enhanced extensive discussion of the five topics that they had for the face-to-face conversations. I found that participants spent much of their time generating ideas for the topics I assigned to them. I, however, noted that the

face-to-face conversations didn't provide participants with an equal chance to interact. Some participants dominated the conversations, a situation which was also noted by Jones et al., in a study they conducted in 2006. Some participants either had higher language proficiency than others or they just had a more extroverted personality, which led them to speak more than their partners in the conversations. An implication for this in a classroom situation is that an instructor needs to intervene more often in order to ensure active involvement of students when they are having a conversation in the foreign language that they are learning.

Second, I also found that study participants tended to apply to their essays the ideas that they themselves raised during the face-to-face interactive sessions. Participants had a very small-scale application of ideas that their interlocutors raised. My explanation for this was that the face-to-face interaction helped the participants to be very aware of the knowledge that they had for the five topics and not necessarily taking wholesale the ideas that came from their interlocutors. This is a new finding to the collaborative theory because, traditionally, it is expected that when people engage in face-to-face conversation, they are meant to benefit each other with new ideas.

Third, the face-to-face conversation provided study participants with an opportunity to scaffold for each other. The scaffolding came in the form of language and ideas where the expert peers in the collaboration setting gave explanations of words and grammatical constructions whenever their partners seemed to struggle with them. The scaffolding brought about a smoother flow of communication, and for that reason, I confidently state that the face-to-face conversation sessions brought about a zone of proximal development that came as a result of the language and content support that the more able participants provided.

Fourth, the face-to-face collaborative setting also helped participants to better understand their communication audience. They took into consideration the reactions and feelings that their interlocutors directed towards their language contribution during the conversation. When it came time for them to write their essays, they were keen to avoid what didn't work during the conversation and only transfer what really excited their interlocutors. Weissberg (2006) argues that this kind of social mechanism is very important in the development of foreign language writing skills.

Fifth, when the study participants engaged in face-to-face conversations and wrote essays afterwards, it provided them with an opportunity to practice how to transform spoken Swahili to written Swahili. This kind of practice may provide learners of Swahili with an opportunity to be aware of different Swahili language styles and understand different contexts of applying those language styles.

CHAPTER 5: THE DIFFERENCES IN THE IMPACT OF SYNCHRONOUS COMPUTER MEDIATED CONVERSATIONS AND FACE-TO-FACE CONVERSATIONS ON ESSAY WRITING IN SWAHILI

Do interactive synchronous computer mediated communications and face-to-face conversations differ in their impact on the essay writing in Swahili that follows afterwards?

Methodology

I used research question 3 to find out the differences between the two modes of interaction on subsequent essay writing in Swahili as a foreign language. I used findings for research questions 1 and 2 as the base for the data that I used for research question 3.

I compared the essays that participants wrote immediately after the two interactive sessions before comparing the impact of the interactive discussions on the essay writing. With the interactive sessions, I did the comparison to determine which interactive medium produced more language and more frequent exchanges in communication. For this reason, I did the comparison to look at the mean number of words, the mean number of turns and the mean number of words per turn. I used Wilcoxon signed-rank test²³ as the analysis method for establishing the significance of the mean difference.

Immediately after the comparison of the two interactive mediums, I undertook a comparison of the essays that resulted from the two interactive sessions. I used the same Wilcoxon signed-rank test that I used to establish the significance of the mean difference in the interactive texts and to explain the significance of the mean difference in the essays that resulted

²³ The Wilcoxon signed-rank test is a non-parametric statistical hypothesis test used when comparing two related samples, matched samples, or repeated measurements on a single sample to assess whether their population mean ranks differ. Courtesy of Social Science Statistics webpage <http://www.socscistatistics.com/tests/signedranks/>

during the post interaction writing of the essays. Wilcoxon signed-rank test asks for independent samples and since in this study I was dealing with paired interactions, it was sensible to use the average scores of each pair for the statistical analysis involving all the scores that I used. To give an example, I used the average of the length of the essays that participants Chapa and Dalili wrote for the Wilcoxon signed-rank test instead of the length of their individual essays. I also compared the mean score of each individual Swahili as a foreign language writing measure together with the holistic scores between the face-to-face and S-CMC chat in order to find out if there existed any statistical significance. Later, I undertook a relation examination of the differences noted in the essays that participants wrote immediately after the two forms of interaction and the differences that I noted in the interactive transcripts in order to find out the connection between the interactive transcripts and the post interaction essays. Could better content quality in the post face-to-face essay writing be traced back to the content quality during the face-to-face interaction session? In summary, I conducted three activities: I (i) compared the data from the interactions, (ii) compared the data from the essay writing and (iii) compared the effects of the interactions to the essays between the two interactive methods that I used.

Comparison of results associated with the S-CMC chat and the face-to-face conversations

I compared the results from the two modes of conversation for all ten participants as a group and for each individual participant. Table 5.1 below shows the comparison of the results of the whole group using the measures of conversation length, number of turns, mean turn length in words, lexical score, grammatical score and content score.

Table 5.1 Comparison between S-CMC chat and face-to-face conversation sessions

	S-CMC chat conversations	Standard Deviation	Face-to-face conversations	Standard Deviation	Mean difference (S-CMC chat – face-to-face conversations)
	Mean		Mean		
Length	285.17	70.82	878.8	144.4	-593.65
Number of turns	25.04	9.29	134.6	40.3	-109.56
Turn length in terms of number of words	11.6	9.08	7.21	2.71	4.39
Lexical score	3.7	0.136	4.17	0.22	-0.47
Grammatical score	3.5	0.188	3.7	0.23	-0.2
Content score	4.2	0.16	3.89	0.24	0.31

In order to examine the statistical significance of the differences in the performance of the participants between the two mediums, I performed a Wilcoxon signed-rank test. As I show in the tables in Appendix S, I performed a comprehensive Wilcoxon signed-rank test for the measures of conversation length, number of turns, mean turn length in words, lexical score, grammatical score and content score. Table 5.2 summarizes the results of the Wilcoxon-signed rank test in Appendix S. As reflected in Table 5.2, the Wilcoxon signed-rank test found that except for the grammatical score, the other differences between the S-CMC chat and face-to-face conversations were all statistically significant at $p \leq 0.05$. In other words, the mean conversation length, number of turns, turn length, and lexical and content scores during the face-to-face sessions were significantly greater than those of the S-CMC chat. This meant that significantly higher figures for the mean conversation lengths, the turn length in words, the number of turns, and the mean lexical and content scores were associated with the face-to-face conversations and not the S-CMC chat. An implication for this in a Swahili class is that there are times when

instructors of Swahili would need to intervene in an S-CMC chat session by giving more specific task instructions in order to ensure that students have truly bilateral and reciprocal S-CMC chat interactions. An implication for face-to-face interactions is that close supervision from the Swahili instructor is required in order to ensure that students produce grammatically correct language during their conversations.

Table 5.2 Wilcoxon signed-rank test results for differences between S-CMC chat and face-to-face conversations

Measure	Mean difference of (S-CMC - face-to-face conversations)	z	$p(\leq 0.05, 2\text{-tailed})$
Number of words	-593.63	-2.8031	0.00512*
Number of turns	-109.6	-2.8031	0.00512*
Turn length in words	4.39	-2.8031	0.00512*
Lexical score	-0.47	-2.8031	0.00512*
Grammatical score	-0.2	-1.5289	0.12602
Content score	0.31	-2.5482	0.01078*

Note * a measure that was statistically significant, $p \leq 0.05$

After comparing data of the two mediums for the whole group, I did a comparison of data from the dyads and reported this in Table 5.3. The mean conversation lengths of individual dyads in the face-to-face conversations were higher than those in the S-CMC chat. I also found higher scores for face-to-face conversations in the constructs of lexical, grammatical and content quality. When participants were involved in face-to-face conversations, they tended to produce more language than when they were involved in S-CMC chat therefore producing more lexical

items, grammatical structures, and idea units. Chapa and Dalili's dyad in face-to-face conversations had the highest scores in terms of lexical, grammatical, and content quality.

Table 5.3 Comparison of individual dyad data in S-CMC chat and face-to-face communications

Measure	Abdi/Bibi		Chapa/ Dalili		Eleza/ Huria		Gaidi/ Huria		Inuka/ Jirani	
	S-CMC	FTF	S-CMC	FTF	S-CMC	FTF	S-CMC	FTF	S-CMC	FTF
	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
Number of words	234	873	257	601	382	890	275	828	266	1035
Number of turns	17.4	113	29	103	35	156	28	172	17	111
Turn length in words	14	9	9	6	11	6	10	5	16	10
Lexical score	3.7	4.2	3.6	3.9	3.6	4.2	3.8	4.4	3.8	4.1
Grammar score	3.7	3.72	3.4	3.4	3.7	3.6	3.3	4	3.4	3.6
Content score	4	4	4.3	3.5	4.3	3.9	4.4	4.1	4.1	3.7

I also compared data on individual participants in the two modes of interactions. In the S-CMC chat, I found that participants in a dyad had similar numbers of turns in many of the conversations that they had. This was different from the face-to-face interactions, which had some participants dominating. Participants had a relatively equal opportunity for interacting during the S-CMC chat. This was a little different during the face-to-face conversations, where certain participants dominated some conversations, hence, rendering relatively unequal the structure of the interaction and collaboration that participants had.

My analysis of data also compared the focus of the discussion that participants had in both S-CMC chat and face-to-face conversations. Data showed that participants spent a large portion of their time generating ideas in both forms of interaction. However, participants had

more lexicon-related episodes during the face-to-face conversations and less during the S-CMC chat. With grammar-related episodes, data showed that participants had more grammar-related episodes in S-CMC chat and very minimal grammar-related episodes during the face-to-face conversations. With regards to the social greetings episodes, participants had more of these during the face-to-face conversations and relatively few during the S-CMC chat. There were only a few spelling accuracy episodes that I found in the S-CMC chat and absolutely no pronunciation accuracy episodes that I noted in the face-to-face conversation sessions. Other focus areas in both mediums drew insignificant discussion from the participants.

In conclusion, as far as providing an equal environment is concerned, the S-CMC chat environment provided study participants with an equal opportunity to interact and collaborate with each other in Swahili. This differed from the kind of interactive environment that participants got from the face-to-face environment, in which some participants dominated the conversations more than others. Second, participants during the face-to-face conversations produced more language than in the S-CMC chat. Third, study participants during the face-to-face conversations had higher lexical and grammatical quality than during the S-CMC chat. I also found that face-to-face conversations were leading in the measures of lexical, grammatical, and content scores at the group and dyad level. The fourth difference that I found was related to the focus of the discussion, where the face-to-face conversation environment seemed to provide study participants with a better opportunity to have both lexical and grammar-related negotiation of meaning. I noted few spelling-related negotiations of meaning during the S-CMC chat and no pronunciation-related negotiation of meaning during the face-to-face conversations.

Comparison results of essays that participants wrote immediately after the S-CMC chat and face-to-face conversations

In this section, I compare all quantitative and qualitative data for the essays that resulted from the two modes of conversation for the entire group and individual study participants using the measures of the length of the essays, spelling accuracy, lexical accuracy, lexical richness, syntactic accuracy, syntactic richness, content richness, organization and holistic assessment. In the section below, I present the comparison results for the whole group.

Group results comparing essays from the S-CMC chat and face-to-face conversations

In Table 5.4, I provide a summary of comparative results of the essays that participants wrote immediately after the two modes of interaction.

Table 5.4 Comparison of the length of essays written by all the participants after the two modes of interaction

	S-CMC chat		Face-to-face		Mean Difference (S-CMC chat – Face-to-face)
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	
Number of words	236.17	58.8	273.7	53.8	-37.53
Spelling accuracy	96.65%	0.822	98%	0.89	-1.35
Lexical accuracy	97.8%	0.71	97%	1.01	0.8
Lexical richness	56.87%	1.35	52.7%	1.5	4.17
Syntactic accuracy	91.76%	0.91	92.2%	1.84	-0.44
Syntactic richness	52.39%	1.41	42.8%	5.55	9.59

Content richness	71.39%	1.94	73.6%	2.8	-2.21
Organization	3.7	0.18	3.4	0.44	0.3
Holistic assessment	3.54	0.19	3.2	0.3	0.34

I provided Wilcoxon signed-rank test results for the data in Table 5.5. In this study, the data that I had mainly resulted from interaction among study participants and hence, I used average scores of the dyads instead of the scores that participants got individually.

Table 5.5 Results for Wilcoxon signed-rank test for the differences between essays that participants wrote after the S-CMC chat and face-to-face conversations

Measure	Mean difference (S-CMC chat essay – Face-to-face essay)	<i>z</i>	<i>p</i> (≤ 0.05 , 2-tailed)
Essay length in words	-37.53	-2.3953	0.0164*
Spelling accuracy	-1.35	-2.6656	n/a *
Lexical accuracy	0.8	-2.1325	n/a *
Lexical richness	4.17	-2.8031	0.00512*
Syntactic accuracy	-0.44	-0.051	0.96012
Syntactic richness	9.59	-2.3953	0.0164 *
Content richness	-2.21	-2.3953	0.0164 *
Organization	0.3	-1.9876	0.046 *
Holistic assessment	0.34	-2.4973	0.01242 *

Note * statistically significant measure, $p (\leq 0.05, 2\text{-tailed})$

There were three measures in which the Wilcoxon signed-rank test found significant differences in the essays that participants wrote immediately after the two modes of interaction: essay length, lexical richness, and syntactic richness. Differences that I noted in the measure of

syntactic accuracy were insignificant because they were beyond the alpha level of $p \leq 0.05$. An interpretation of the statistical results is that the mean length of the essays that participants wrote immediately after the face-to-face conversations was significantly greater than the mean length of the essays that participants wrote immediately after the S-CMC chat sessions. On the other hand, essays that participants wrote immediately after the S-CMC chat had significantly higher scores in lexical accuracy and lexical richness than the face-to-face conversations. This meant that, despite the fact that study participants had shorter essays that resulted from the S-CMC chat, they wrote with much better lexical accuracy and also had richer and more diversified lexical items than in the essays that they wrote immediately after the face-to-face conversations. As shown in Table 5.5, I also observed notable differences in the means (although they were not very significant) in the measures of organization and holistic assessment. S-CMC chat had higher scores in the measures that I mentioned in the previous sentence. With regards to syntactic accuracy and content richness, Table 5.5 shows that essays that participants wrote immediately after the face-to-face conversations had higher mean scores than those that came from face-to-face conversations.

Concerning writing fluency, in both writings, Table 5.5 shows that there was a difference of about 37 words in the mean essay length that participants wrote immediately after the two modes of interaction. With this finding, it was easy to conclude that face-to-face interactive medium helped the study participants enhance their Swahili essay writing fluency in terms of length.

Comparison results between essays that participants wrote immediately after the S-CMC chat and essays that participants wrote immediately after the face-to-face conversations for individual study participants

Table 5.6 below only provides data for the measure of syntactic richness, but the description that I provide is for all ten measures that I used with all the essays that the ten participants wrote. Tables for the other measures are in Appendix T. In the nine tables (one in this section and eight in Appendix T), I present the differences in the essays that individual participants wrote in the two mediums using the following measures:

- (i) Length
- (ii) Spelling accuracy
- (iii) Lexical accuracy
- (iv) Lexical richness
- (v) Syntactic accuracy
- (vi) Syntactic richness
- (vii) Content richness
- (viii) Organization
- (ix) Holistic score

Table 5.6 Comparison of the syntactic richness of essays that individual participants wrote after the two modes of interaction

Subject	S-CMC	Face-to-face	Signed rank
Abdi	52.3	52.4	-1
Bibi	52.1	44.6	5
Chapa	51.25	47.5	2

Dalili	53.5	41.5	10
Eleza	52.1	46.4	4
Furaha	52.9	41.6	8.5
Gaidi	52.2	41.8	7
Huria	53.4	57.2	-3
Inuka	51.9	42.4	6
Jirani	52.5	41.2	8.5
W-value: 4 Mean Difference: 9.59 Sample Size (N): 10 z-score: -2.4 σ_w : 9.81			
The z-score was -2.4. The p -value was 0.02. The result was significant at $p \leq 0.05$. Or The W-value was 4. The critical value of W for $N = 10$ at $p \leq 0.05$ was 8. Therefore, the result was significant at $p \leq 0.05$.			

The mean syntactic richness in Table 5.6 above and the mean spelling accuracy (in Appendix T-2) were greater in the essays that individual study participants wrote after the S-CMC chat than the essays that they wrote immediately after the face-to-face conversations. With respect to the mean length of the essays, data in the table (see Appendix T-1) show that individual participants had higher mean values for essays that resulted from face-to-face conversations when I compared them with essays that resulted from S-CMC chat. With the other six measures, individual participants performed better either in the essays that they wrote immediately after the S-CMC chat or the face-to-face conversations. In the measure of lexical accuracy, for example, participants Dalili and Jirani performed better in the essays after the S-CMC chat, while other study participants had minimal differences between the essays that they wrote immediately after the two modes of interaction. Participants Bibi, Chapa, Dalili, Eleza, Furaha, Gaidi, Inuka and Jirani's mean scores for lexical richness were much higher in the essays that resulted from S-CMC chat than face-to-face, while participants Abdi and Huria had better mean scores on this measure in their essays that they wrote after the face-to-face conversations

than S-CMC chat. As far as syntactic accuracy is concerned, study participants Dalili /Furaha, Gaidi / Jirani had higher mean scores in the essays that they wrote immediately after the S-CMC chat than face-to-face, while participants Abdi, Bibi, Chapa, Eleza, Huria and Inuka had higher scores on this measure in the essays that they wrote immediately after the face-to-face conversations than in S-CMC chat. For the measure of content richness, participant Jirani received higher scores in the essays that he wrote immediately after the S-CMC chat, while the nine other participants had higher scores on this measure in the essays that they wrote immediately after the face-to-face conversations. For the measure of organization, participants Bibi, Dalili, Eleza, Furaha, Gaidi, Inuka and Jirani had higher mean scores in the essays that they wrote immediately after their S-CMC chat than face-to-face, while participants Abdi, Chapa and Huria got higher mean scores in the essays that they wrote after their face-to-face conversations than S-CMC chat. I found higher holistic scores in the essays that participants wrote immediately after the S-CMC chat than face-to-face for participants Bibi, Chapa, Dalili, Eleza, Furaha, Gaidi, Inuka and Jirani, while participants Abdi, Bibi and Furaha had higher holistic scores in the essays that they wrote immediately after the face-to-face conversations than in the S-CMC chat. Generally, this clearly shows that prior S-CMC chat helped students in their essay writing when compared with face-to-face conversations, although there could still be some students whose essay writing would highly benefit from prior face-to-face conversation session than S-CMC chat sessions.

In summary, data in Table 5.6 and the one in Appendix T reflect that study participants had significant differences in three measures, in the essay writing that they did immediately after the two forms of interactive communication. These three measures were essay length, spelling accuracy and lexical richness. Data also showed that the mean length of the essays that

participants wrote immediately after the face-to-face interaction was much greater than the mean length of the essays that they wrote after in the S-CMC chat than face-to-face. I found a higher score for mean length in the essays that participants wrote immediately after the face-to-face conversations than in S-CMC chat at the group and at the individual level. On the contrary, essays that participants wrote immediately after the S-CMC chat had higher scores in the measures of spelling accuracy than essays that they wrote immediately after the face-to-face conversations at the group and the individual level. For the measure of lexical richness, essays that participants wrote immediately after the S-CMC chat had higher scores than essays that resulted from the face-to-face conversations. However, this was true only at the group level and not at the individual level. From the individual participant data, it is evident that study participants received higher scores in the measure of syntactic richness in the essays that they wrote immediately after the S-CMC chat than for the essays that they wrote immediately after the face-to-face conversations. For the other six measures, some individual participants had better scores in the essays that they wrote after the S-CMC chat, while others had better scores in the essays that they wrote immediately after their face-to-face conversations.

Comparison results between effects of S-CMC chat and face-to-face conversations on essay writing

I compared the effects that the two modes of conversation had on essay writing. In short, I compared the correlation data and the transfer analysis data that I found in both the interactive transcripts and the essays.

Comparison results of the correlation data between S-CMC chat and face-to-face conversations

I undertook a comparison between the S-CMC chat and face-to-face conversations on the basis of the correlation data that existed between the two interactive sessions and the essay writing sessions. In earlier chapters, I showed that the two modes of interaction did not have any significant association with the essays that participants wrote afterwards on the essay length, lexical, and content measures. However, I found a moderate positive correlation of 0.44 in the measures of grammatical quality in the face-to-face conversations and syntactic richness in the essays that participants wrote immediately after the face-to-face conversations. The situation was totally different with the S-CMC chat and the essays that participants wrote afterwards. I found a very weak negative correlation of -0.14 between the measures of grammatical quality that participants had in the conversations and the measure of syntactic quality that participants had in the essays that they wrote immediately after the S-CMC chat. This meant that there was a weak association in the measures of grammatical quality and syntactic qualities in the essays that participants write immediately after the S-CMC chat.

Comparison results of transfer analysis data between S-CMC chat and face-to-face conversation sessions

I also compared the nature of the transfer from the two modes of interaction to the essays that participants wrote between the two mediums. The measures on which I based the comparison were lexical items, syntactic structures, idea units, idea structure, and language-related meaning negotiations. Table 5.7 below provides examples of the comparison of the

nature of the transfer that existed between the two modes of communication which are a representative of the overall results.

Table 5.7 Comparison of transfer data between the S-CMC chat and face-to-face conversations

Essay	Percentage that I found in the preceding S-CMC chat or face-to-face conversation		
	Lexical items	Syntactic structures	Idea units
Participant Abdi's essay resulting from S-CMC chat session 4	80.1%	70.1%	74.6%
Participant Bibi's essay resulting from S-CMC chat session 4	81.3%	81.8%	66.9%
Participant Chapa's essay resulting from S-CMC chat session 3	73.9%	74.8%	57.9%
Participant Dalili's essay resulting from S-CMC chat session 3	65.1%	75.1%	82.9%
Participant Abdi's essay resulting from face-to-face conversation session 4	90%	71%	91%
Participant Bibi's essay resulting from face-to-face conversation session 4	83%	71%	76%
Participant Eleza's essay resulting from face-to-face conversation session 3	72%	30%	41%
Participant Furaha's essay resulting from face-to-face conversation	77%	75%	49.7%

session 3			
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In the essays that participants wrote immediately after the S-CMC chat and face-to-face conversations, they transferred to their essays lexical items from the preceding interactive sessions. It is, however, important to note that this wasn't the case with the transfer of syntactical structures and idea units. I noted a relatively high amount of transfer of syntactical structures in the four essays that participants wrote immediately after the S-CMC chat sessions. The transfer of syntactical items in the essays that participants wrote immediately after the face-to-face conversations was minimal or inconsistent. Eleza, for example, only had 30% transfer of grammatical structures from the face-to-face interactive texts to the essays. For the idea units, I noted a high degree of transfer in the essays that participants wrote immediately after the S-CMC chat. In contrast, essays that participants wrote immediately after the face-to-face conversations didn't have many idea units transferred from the face-to-face conversation sessions. An example of this is the essays for session 3 that participants Eleza and Furaha wrote immediately after their face-to-face conversations. The percentage of idea units in the essays that participants Eleza and Furaha transferred from the previous face-to-face conversation sessions was below 50%. In regards to the idea structure, study participants tended to transfer to their essay writing the idea structures that they had during their S-CMC chat sessions. Sometimes participants added their own ideas or did some modification to the ideas that they got from the S-CMC chat sessions while transferring them to their essays. On the contrary, the study participants didn't transfer many of the idea structures that they had from their face-to-face conversations to their writing. An example to illustrate this in Table 5.7 is the essays for writing session 3 that participants Eleza and Furaha wrote. In the essays, study participants Eleza and Furaha had more than 50%

idea structures that were different from what they had during their face-to-face conversation sessions.

I also did a comparison of the transfer effect of the lexicon-related and grammar-related meaning negotiations. Table 5.8 below presents a comparison of the two meaning-related constructs.

Table 5.8 Comparison of transfer of lexicon-based meaning negotiations from the two interactive conversations to the two essay writing tasks between S-CMC chat and face-to-face conversations

	Number of negotiated words during the interactive conversation session	Number of negotiated words used in essays that participants wrote immediately after the interactions	
		By study participant who explained the word	By study participant who received explanation of the word
S-CMC	5	3	1
Face-to-face conversations	20	5	2

Most of the lexicon-related negotiations of meaning occurred during the face-to-face conversation as opposed to the S-CMC chat sessions. I also noted that participants mostly transferred lexicon-related meaning negotiations to the subsequent essays immediately after the S-CMC chat sessions and they didn't transfer much to the essays that they wrote immediately after the face-to-face conversations. Participants transferred four out of five lexicon-related negotiations of meaning to the essays that they wrote immediately after the S-CMC chat as compared to the seven out of twenty that they transferred to the essays that they wrote immediately after the face-to-face conversations. Another interesting side of the lexicon-related

negotiation of meaning transfer was that participants who explained the questions did much more of the transfer than those who asked the questions. Out of the five lexicon-related negotiations of meaning that participants transferred to their essays after the S-CMC chat, three were transferred by participants who explained the questions and only one was transferred by the one who asked the question. For the lexicon-related negotiations of meaning that participants transferred from the face-to-face interactions to the essays, five were transferred by the participant who explained it and two were transferred by the person who asked it and thirteen were never transferred by anyone.

Besides the transfer of lexicon-related negotiation of meaning, study participants also had few grammar-related negotiations of meaning during the interactive conversation that they transferred to the essays. Participants transferred four out of the six grammar-related negotiations of meaning to the essays that they wrote immediately after their face-to-face conversations.

Discussion

The results that I found showed that the two modes of interaction had similarities and differences that I discuss from an interactionist and collaborative perspective. I found that the two modes of interaction benefited participants in their essay writing in ways that were in line with the interaction hypothesis. To start with, the two modes of interaction provided participants with exposure to comprehensible input and output. Participants subsequently utilized the input and output in the writing of their essays. In the essays that participants wrote immediately after the two interactive mediums, I could trace some of the linguistic, content and organization features to the interactive texts that preceded the essay writing. Secondly, in both interactive mediums, participants were provided with an opportunity to negotiate meaning that was

triggered by the lexical items. There were occasions when the participants were able to transfer some of the lexical items that they negotiated to their texts. Thirdly, immediately after the two modes of interaction, participants had high performance in their essay writing in the areas of lexical, syntactical, and spelling accuracy. It may be that participants only wrote with lexical and syntactical structures that they were comfortable with. Their focus on accuracy may have led participants to have a limited amount of lexical and grammatical structures in the essays that came immediately after the two modes of interaction. Finally, the length of the essays that participants wrote immediately after the two modes of interaction either stagnated or failed to have notable improvement over the study period.

From a collaborative learning theory perspective, I noted that the two modes of interaction provided participants with an effective environment for collaboration. Participants benefited from each other's linguistic resources, experiences, and ideas that each participant brought to the table. Participants spent much of their time generating ideas in both interactive mediums. In both mediums, ideas that participants exchanged later on helped those who were less capable in writing their individual essays. Additionally, the two modes of communication helped participants to understand their communication audience. They took into consideration the reactions and feelings that their interlocutors directed towards their language contribution during the conversation. When it came time for them to write their essays, they were keen to avoid what didn't work during the conversation and only transferred what really excited their interlocutors. Weisberg (2006) argues that the social and cognitive skills gained from the interactive sessions go towards helping participants in their writing owing to the fact that writing is also a social act.

Despite the above similarities, the two modes of interaction differed in the manner in which participants transferred materials from the two modes of interaction to their essays. The transfer of lexical, syntactical, idea units and content from the S-CMC chat to the essay writing was more direct than the one from the face-to-face conversations to the essays. I found that participants transferred materials from the face-to-face conversations to the essay writing in a more selective manner. Participants had limited time to have extensive discussions in the S-CMC chat and hence they may have lacked deep thinking on the topics. Participants also needed time to type on the keyboard and wait for responses from their interlocutors. Having limited time for discussion may have led them to have limited ideas and simple structures of their content. Third, participants provided their input and output in writing and this may have made it easier for them in the essay writing because they could easily transfer what they had written during the S-CMC chat to the essay writing sessions.

In contrast, with the face-to-face conversations, participants had a selective transfer of ideas from their interactive sessions to the essay writing, and they also injected their own ideas and content into their essay writing. For that reason, the essays that participants wrote immediately after the face-to-face conversations were more of an expansion of what transpired during the face-to-face conversations. In-depth discussion of topics in their face-to-face conversations may have stimulated their thinking on the topic, which allowed them to develop their own ideas and content beyond what appeared during the face-to-face interactive sessions.

Another difference between the two modes of communication was the degree to which participants engaged in negotiation of meaning. Participants had five lexicon-related negotiations of meaning during the S-CMC chat while during the face-to-face communication they had twenty. With grammar-related negotiation of meaning, participants had four during the S-CMC

chat, while during the face-to-face conversations they had zero grammar-related negotiations of meaning. It may be that participants didn't require much negotiation of meaning during the S-CMC chat because the information was visually available to them as they went on with their typing. Secondly, participants tried to avoid negotiation of meaning during the S-CMC chat because it required them to type and wait for responses from their interlocutors. I also noted that participants covered up their misunderstanding of certain lexical or grammatical structures by rather initiating subtopics of the main topics that they were discussing. In contrast, participants had many episodes of meaning negotiation during the face-to-face interactive sessions. Participants found it time-efficient to ask for clarification and explanation of certain lexical and grammatical structures that they didn't understand before moving on with their discussions during the face-to-face communication sessions. The second thing that I noted with the negotiation of meaning during the S-CMC chat was that participants tended to transfer the lexical items that they negotiated during the S-CMC chat to the essay writing. This was a little different with the lexical items that participants negotiated during the face-to-face interactive sessions. Most of the lexical items that participants negotiated during the face-to-face interactive sessions they did not transfer to the essay writing sessions. During the face-to-face interactive sessions, participants only transferred seven out of the twenty lexical items to their essays. It may be that during the S-CMC chat, the study participants didn't feel pressured to communicate with immediacy, giving them an opportunity to process information at their own pace (Fernandez-Garcia & Martinez Arbelaz, 2002). However, during the face-to-face conversation sessions, participants may have felt pressured to go at the pace of their interlocutors, hence, leading them not to allocate enough time to attend to specific linguistic items. Payne and Ross (2005) found that foreign language learners with different working memories had different ways in which their

oral proficiency developed because each foreign language learner is unique in the way they focus on certain linguistic items.

Third, I found that the length of the essays from the face-to-face interactions had a significantly greater mean than the length of the essays from the S-CMC chat. I noted this phenomenon at both the individual level and the group level. This phenomenon may have been caused by the fact that since participants produced more language during the face-to-face interactions than the S-CMC chat, they had abundant ideas to transfer to the writing sessions, hence, leading them to generate longer essays immediately after the face-to-face conversation sessions. Fourth, I noted that although the face-to-face interactions had higher lexical, grammatical and content quality scores than the S-CMC chat, that did not translate to the essays that they wrote immediately after face-to-face conversations having higher spelling accuracy and lexical richness scores. Instead, the spelling accuracy and the lexical richness scores in the essays that participants wrote immediately after the S-CMC chat sessions were higher (for both group and individual participants) than those that resulted from the face-to-face communications. This might have been brought about by participants having much visual access to the lexical items and this probably helped them during their essay writing sessions because the participants could recall how to spell words during their essay writing sessions. I also found that the mean organization and holistic scores for the essays that participants wrote immediately after the S-CMC chat were higher than those for the essays that resulted from the face-to-face conversations. I took this to mean that participants basically transformed their S-CMC chat contents to writing. This was their second chance at writing after spending the first writing session in the S-CMC chat and hence they were bound to generate essays with higher organization and holistic scores than the essays that they wrote immediately after the face-to-face

conversations. It is, however, important that I mention that the participants seemed to have new ideas and content for the essays that did not appear during their face-to-face conversation sessions. This may have been brought about by the face-to-face conversation sessions helping the participants to have a deeper thinking process, which was critical in developing their higher cognitive skills and strategies that they used in writing their essays. Having new ideas and new content in their essays did not, however, mean that they had higher organization and holistic scores on their essays, as I found in the essays that came immediately after the S-CMC chat interactive sessions.

Pertaining to the collaborative theory, there were different characteristics for the two interactive mediums. First of all, I noted that the dyadic interactions that transpired among participants during the S-CMC chat reflected a relatively more equal collaborative pattern than the ones during the face-to-face interactive sessions. Warschauer and Beauvois noted similar findings in studies that they conducted in 1996 and 1998. The equal collaboration during the S-CMC chat provided the participants with power to manage their contribution to the conversation and hence helped those whose language proficiency was low. With the face-to-face conversations, however, participants had unequal contribution to the conversations and some of them dominated the conversations more than they did during the S-CMC chat. This may have been brought about by participants whose proficiency in Swahili was higher or who had a more extroverted personality contributing more to the face-to-face conversation. A pedagogical implication for this is that instructors of Swahili need to provide more specific instructions for face-to-face interaction in a classroom situation.

The second observation that I noted was that in the essays that participants wrote immediately after the S-CMC chat, the participants utilized many ideas that resulted from the S-

CMC chat. In the essays that participants wrote immediately after the face-to-face conversations, the participants tended to incorporate ideas that they generated during the face-to-face conversations. This may have been brought about by participants having limited ideas from the S-CMC chat and hence being easily tempted to incorporate them into their essays that came immediately after the conversations. With the face-to-face conversations, participants had a lot of ideas that stimulated a deeper thinking process that made them have a better understanding of the topics. This deeper thinking process may have led the participants to generate more ideas and constructions for their essays rather than just transfer all the ideas that transpired during the face-to-face conversations to their essays.

Third, I also noted some differences in the focus of the discussion associated with each interactive medium. In the face-to-face conversations, I noted that the participants didn't devote as much time to social greetings as I noted in the S-CMC chat. This may have been caused by the fact that participants were physically present during the face-to-face conversation and could see each other, hence, they did not find it necessary to devote much time to social greetings. In the S-CMC chat, however, the participants couldn't see each other face-to-face, a situation which may have led them to devote a much longer time to social greetings. I also found that the S-CMC chat had few spelling-related episodes compared to the pronunciation episodes that were associated with the face-to-face conversations. This may have been caused by the fact that participants had visual access to the spelling of the lexical items from the interactions and, hence, they didn't require much explanation for them. During the face-to-face conversations, the participants requested the repetition or clarification of lexical items that were not clear to them.

CHAPTER 6: STUDENTS' PERCEPTIONS

Now that we know the differences in the impact of S-CMC chat and face-to-face conversations on essay writing, what do students think about the use of the two interactive modes as a means of planning for writing essays in Swahili? I analyzed data related to participants' perceptions from two sources: (i) from the interview during week 7 and (ii) from the exit poll during week 12.

Methodology

During the 7th week, I individually interviewed all ten participants about their experiences of moving from the two interactive mediums to essay writing in Swahili. I conducted the interviews in order to find out participants' perceptions regarding using the two modes of interaction as preparatory tools before writing (provided in Appendix M). For the exit poll questionnaire, I asked the participants to answer questions on writing in the exit poll sheet that I provided (See Appendix N.) I first started the analysis of the interview data and the questionnaire with coding in order to identify the prominent themes. I used descriptive statistics such as frequency count to analyze the perceptions that the ten participants had. In this section, I first present the questionnaire data followed by the interview data in the two modes of interaction that I employed in this study. I then do a consolidation of the data from the two sources for each of the two modes of interaction that I used in this study.

Participants' perceptions of the effect that S-CMC chat had on essay writing

My analysis of the interview and the questionnaire data on the usefulness of the S-CMC chat on essay writing revealed that many of the study participants' comments clustered around

the following five areas: (i) sharing information, (ii) brainstorming ideas, (iii) enhancing their writing fluency, (iv) providing them with an opportunity to practice Swahili language in the lexical, grammar and spelling areas, and (v) providing them with an opportunity to plan how they would write their essays.

Five of the participants had the feeling that by getting involved in the S-CMC chat, they derived benefits such as practicing and reinforcing how to spell Swahili words correctly. Some participants also had the feeling that they were able to recall and use Swahili vocabulary from the S-CMC chat that they had with their partners. With regards to grammar, three participants mentioned that the S-CMC chat provided them with an opportunity to practice grammatical structures in Swahili. Listed below are a number of comments related to language practice that participants mentioned in the interviews and the questionnaires:

You write more grammatically in the essay because you have already been writing (in the chat).

It helps keep me attentive to spelling.

When typing online, the format allows for more reflection on sentence structure and vocabulary. In this we can recall visually how grammars and sentences work.

I get the [...] vocabulary.

Five participants stated that the S-CMC chat provided them with an opportunity to brainstorm ideas, which seemed to be a benefit that the majority of the study participants got by involving themselves in the S-CMC chat.

I definitely think that it adds to what I will say when we chat first.

It is helpful to brainstorm ideas of what to write about in our essays.

Additionally, the S-CMC chat provided participants with an opportunity to share information, especially new lexical items and idea units, as reflected in the comments that were made by Gaidi and Huria.

“I get ideas about the topic from chatting with my classmate.

Sometimes my partner helped me remember words I knew but could not remember.”

Seven out of the ten study participants had the feeling that the S-CMC chat provided them with a prior organization plan that they applied in their writing. The S-CMC chat provided the participants with an introductory content structure and a sound corner point to start the essays that they wrote in Swahili.

For me, I remember more of the conversation when I have written it down, which makes it easier to remember for the essay writing.

Using written words to discuss helps to prepare for the written exercise.

It helped me know and plan what I would say.

Finally, study participants also reported that the S-CMC chat that preceded their essay writing helped in enhancing their fluency in Swahili language. This meant that the S-CMC chat helped the participants in their formulation and organization of ideas before their engaging in writing essays.

So it was more scattered on chat and more organized in the essay form.

I think the biggest advantage is learning new things through my conversation with my classmate that I can take and use in my writing. I think it gives my brain time to warm up and by the time we write Swahili it's in the forefront of my brain.

From the many positive comments that the participants made about the S-CMC chat, I was tempted to think that it was all positive, but that was not the case. I put together the negative

comments that they made in the following five general categories: (i) slow communication, (ii) informal language styles, (iii) difficulty in retaining information, (iv) limited number of ideas and (v) a restricted opportunity to practice grammar. Five study participants mentioned that the S-CMC chat concentrated more on spelling and practice on the use of lexical items and was not necessarily an avenue for practicing grammar and for them to be corrected. The comment made by Dalili below attests to this claim:

“You are forced to think about spelling, noun class. One thing I find frustrating with it is that I don’t know, first of all, I don’t know what mistakes I’m making until I’m sure I’m making mistakes, and so I don’t feel as though I’m getting corrected and so it’s kind of like you are walking in a vacuum, and I think that I learn a lot when I make a mistake and get corrected.”

With reference to the absence of practicing grammar structures, seven of the ten participants had the perception that their language during the S-CMC chat conversations was informal and not comparable to the formal language that they would use when writing essays.

The conversation is less natural.

This conversation is not as organic as an oral conversation.

The only disadvantage is that if either of us makes mistakes it usually translates into my writing.

Jirani: Can be too informal and bad writing behavior patterns with FB.

Besides the language in the S-CMC chat being informal, the study participants had the feeling that the communication flow was very slow. Participants needed time to read their messages or waited too long for responses from their interlocutors. In addition, it took study participants time to clarify or give explanations for some of the items that they had in their S-CMC chat.

“Sometimes we would wait for others to respond.

It took a lot of time to reply back and forth.

The slow pace that was associated with the S-CMC chat impacted on the idea units in that participants only produced a few of them. This was well put by participant Abdi when he said that,

“You have much less to write about in the essay because you talk about much less in the Facebook chat.”

Before we get to the interview data, it is important to finalize reporting on the data from the questionnaires by saying that data showed that it was hard for the study participants to retain the information that they discussed during the S-CMC chat conversation, although they could visually see it on their computer screens.

“One is like pressured to get faster. You don’t wanna spend time forever thinking how to compose.”

Besides the questionnaire, I also interviewed study participants during the 7th week of the study. I conducted the interviews in order to collect data related to their perceptions about using S-CMC chat to practice writing essays in Swahili language. I analyze the data that I got from the interviews and provide the summary in Tables 6.1 and 6.2 below.

Table 6.1 Interview data regarding the advantages of S-CMC chat before essay writing

Advantages	Number of responses
Provided opportunities for spelling practice	6
Provided opportunities for practicing linguistic structures	7
Provided opportunity for practicing lexical items	5
Provided opportunities for brainstorming ideas	7

It was interesting to realize that the positive data that I got from the interview data was similar to the data that I got from the questionnaires that the study participants filled out during week 12. Table 6.2 below reports the negative opinions that the study participants had about the S-CMC chat during the interviews.

Table 6.2 Interview data regarding the disadvantages of S-CMC chat before essay writing

Disadvantages	Number of responses
Difficulty in retaining information	2
Slow communication	1
Distant relationship between conversation participants	2
Limited number of ideas	4

In terms of negative aspects of S-CMC chat, the interview data in Table 6.2 reflect that study participants also raised the issue of distant relationship between conversation participants. This comment was, however, made by only two participants and for that reason I didn't treat it as a representative opinion of what all the study participants said. The other negative opinions that the study participants mentioned during the interviews were in line with the comments that were made by the study participants when they filled out the questionnaires.

Study participants' perceptions of the effect that the face-to-face communications had on their essay writing

I also sought study participants' opinion about the perceptions that they had about the face-to-face conversations they had before essay writing. Study participants mentioned that the face-to-face conversations were beneficial in the following ways:

- (i) It provided them with opportunities to practice linguistic structures and lexical items.

- (ii) It provided them with an opportunity to brainstorm ideas.
- (iii) It helped them in terms of retention of the information that they discussed before writing their essays.
- (iv) It provided them with an initial structure to depend on before writing their essays.
- (v) It gave them an opportunity to collaborate with their peers.
- (vi) It enhanced the fluency that they had in writing essays in Swahili afterwards.

Concerning (i), that the face-to-face conversations provided study participants with an opportunity to practice linguistic structures and lexical items, a number of participants had the following comments:

Face-to-face [...] helps practice pronunciation. I also find it useful in remembering vocabulary better.

Sometimes I was surprised at words I could remember and how sentences were constructed.

I get vocabulary and maybe even a little grammar.

All ten-study participants agreed that the face-to-face conversations provided them with a good opportunity to brainstorm ideas, which was much better than the opportunity provided by the S-CMC chat.

I get new ideas.

All of the same advantages as I listed for writing. (that included the comment: It's helpful to brainstorm ideas of what to write about in our essays.)

Talk in greater length.

Study participants also commented on the idea that the face-to-face conversations enhanced retention of the topic that they had during the conversation. They were able to remember much of the information that they talked about when it came time for them to write their essays.

I remember more of what the other person said in the face-to-face conversations than written in online chats, so I remember more for individual essays.

We were also able to hold longer and more complex conversations and it gives me more information to write about.

The face-to-face conversation environment also provided study participants with an introductory structure for their essays, which they ended up reorganizing when it came time for them to write.

It really helped my speaking abilities & allowed me to get everything I knew about the topic out & sorted before writing.

Learning to “think on your feet” is a vital component of language learning.

When I go to write, I get the opportunity to organize what I said.

Study participants also mentioned that the face-to-face conversations enhanced peer collaboration between the study participants learning Swahili. During their face-to-face conversations, participants were able to share ideas on the topics that they collaborated on. It is also important to note that study participants expressed the opinion on the ownership of ideas and the non-verbal communication signals that they benefited from collaborating with their peers.

I remember more of what the other person has said in the face-to-face than written in online chats.

I like talking face-to-face. It gives us the opportunity to use our body motions to get our point across.

Personal communication can be easier for ideas to flow. It's easier for me to talk around a subject if I don't have the right words.

It significantly decreased the anxiety I used to have when I needed to speak for an extended time in Swahili.

The final benefit that study participants drew from engaging in face-to-face conversations was in how the conversations improved their fluency in writing Swahili as a foreign language.

In a 20 minute face-to-face conversation you can cover much more ground and talk about more things. Thus, there is more content for the individual essay.

Oral conversation is the basis of true fluency, and having to talk face to face is vital to learning the language.

We were also able to hold longer and more complex conversations and it gives me more information to write about.

Despite the fact that the study participants had lots of positive comments about the face-to-face conversations that preceded the essay writing, they also had a number of negative comments about them. One of the negative comments was that the environment didn't provide them with an effective chance to acquire lexical items.

When one of us did not know important vocabulary words related to the topic, it was hard not being able to look it up.

The only disadvantage is if you explained something through hand gestures while talking but then while writing you can't successfully say what you want because you don't know the words.

No spelling help from written conversation.

Learning grammar during the face-to-face conversations was, however, much lower than learning it during the S-CMC chat.

It's easy for me to forget about things like noun classes and prefix agreement when in conversation because I am more preoccupied with understanding and responding to my partner than correct grammar.

Worse grammar because going faster.

It was also interesting to note that two study participants had concerns about the nature of the topics for discussion that they had, despite the fact that the topics were drawn from the themes that they had in class.

It is sometimes difficult to sustain a 20-minute face-to-face conversation in Swahili, so this can make it tough to write an essay (This really depends on the topic of conversation. Sometimes we had a lot to say, but sometimes we struggled.)

Sometimes I wished we knew more about the subjects because it was hard to “think on my feet” (speak Swahili).

Tables 6.3 and 6.4 summarize my analysis of the interview data. Many of the benefits that study participants mentioned in the questionnaires they also mentioned during the interviews, except for the one in which they said the human connection was much better in face-to-face conversations than in S-CMC chat. This comment was only made by one student and for that reason I didn’t include it in the analysis. All the other advantages that the study participants mentioned during the interview were in line with the comments they made when they filled out the questionnaires.

Table 6.3 Interview data about the benefits of using face-to-face conversations before writing essays in Swahili

Benefits	Number of responses from the 10 study participants
Face-to-face conversations provided opportunities for practicing linguistic structures	4
Face-to-face conversations provided opportunities for practicing lexical items	4
Face-to-face conversations provided opportunities to generate ideas	8
Face-to-face conversation helped in idea retention	2

Face-to-face conversations allowed human connection between study participants	1
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Table 6.4 Interview data concerning the disadvantages of face-to-face conversations before writing essays in Swahili

Disadvantages	Number of responses from the 10 study participants
Distraction in the conversation	2
Superfluous repetition	1
Lack of visual features	5
Pressure to communicate	1

In addition to the disadvantages of face-to-face conversations that I captured using questionnaires, the interviews captured three new disadvantages. These were (i) distractions during the conversations, (ii) superfluous repetitions, and (iii) pressure to communicate. I, however, didn't include these disadvantages in the analysis because only one or two participants mentioned them. Other disadvantages that the study participants mentioned during the interviews were consistent with those that they mentioned when they filled out the questionnaires.

Comparison of perception data between S-CMC chat and face-to-face conversations

The comparison of the data that I got from the questionnaires and the interviews concerning the benefits of S-CMC chat and face-to-face conversations revealed that the two forms of interaction helped the study participants in the following ways:

- (a) Both interactive mediums helped them in the brainstorming of ideas.
- (b) Both interactive mediums provided opportunities for them to practice lexical and grammar structures.

- (c) Both interactive mediums provided them with initial structures that were very beneficial before they embarked on writing their essays.
- (d) Both mediums gave them an opportunity to share information.
- (e) Both interactive mediums enhanced their attitudes towards writing essays in Swahili.
- (f) Both mediums helped them improve their fluency.

Although many of the benefits that participants accrued from both mediums seemed similar, I found that each medium benefited the study participants differently to a certain degree. In the benefit they got for grammar practice, for example, study participants were of the opinion that the S-CMC chat provided them with more opportunity to practice grammar structures than the face-to-face conversations did. Secondly, in opportunities to brainstorm ideas, study participants commented that the S-CMC chat was a little slower compared to face-to-face conversations. This also led to the low number of ideas that study participants had in the S-CMC chat compared to face-to-face conversations.

“I noticed it’s, (the S-CMC chat transcripts) like, really strong when I was looking at before our meeting today so I have less to write about because we’ve talked about much less. You have very much less to write about in the essay because you talk about much less in the Facebook chat.”

Regarding initial content structure, study participants mentioned that face-to-face conversations provided them with a better initial structure before they embarked on writing their essay. In S-CMC chat, study participants were of the opinion that it didn’t provide them with an opportunity to retain much of the information that they shared for the purposes of their essay writing.

I think the advantage is that there is a wide breadth, like you are able to go more in detail and talk about more things and you are able to get all the communication as well, which is important for me at least, if I wanna write.

I had a lot more to write about when it came to speaking while on Facebook I felt like my essays were typically shorter because we had less to talk about.

Despite the fact that participants had similar feelings for the two mediums of interaction, there were situations when they had comments that were totally different for both mediums. An example is when a participant had the opinion that he felt pressured to communicate during the face-to-face conversation. A second example is when a participant commented that S-CMC chat was good for practicing spelling of Swahili words because you could visually see what is being spelled. In order to have a clear picture of the similar and different comments that study participants had for both mediums of conversation, I provide a summarized version in Table 6.5 below.

Table 6.5 Participants' comments about S-CMC chat and face-to-face communications

Aspect	S-CMC	Face-to-Face conversation
Provided opportunities for practicing grammatical structures	Yes, but not much	Yes
Provided opportunities for practicing lexical structures	Yes	Yes
Provided opportunities for practicing spelling (during the S-CMC chat and pronunciation (during the face-to-face conversation	Yes, they were able to see the words as they were spelled	Yes
Provided study participants with an opportunity to brainstorm ideas	Yes, but not much because of conversations were slow and hence less ideas that were generated by the study participants	Yes
Provided study participants with an opportunity for peer collaboration	Yes, but not that much	Yes, participants were able to go deeper into their thought and influence the thought system of their

		interlocutors as well
Provided study participants with an initial structure for writing their essays	Yes, however, study participants had difficulties in retaining much of the information resulting from the conversations	Yes, study participants were able to retain much of the information that they got from the face-to-face conversations.
Enhanced the writing fluency of study participants	Yes, already in the writing mood	Yes
Language style in the two mediums and the writing of Swahili essays afterwards	Informal style in the conversation and sometimes transferred to the essays	More formal style in the conversation and sometimes transferred to the essays

Discussion

The prediction that I initially made was that participants would perceive S-CMC chat and face-to-face communications as beneficial tools that would help them in developing their writing of Swahili essays, especially in the areas of grammatical accuracy, complexity of Swahili language production, fluency, providing a stress-free or generally a conducive environment for practicing writing or providing them with higher motivation for learning Swahili as a foreign language. The results that I found in the analysis confirmed some of the predictions but also brought about new findings.

From the interviews and the information from the questionnaires, participants mentioned that both mediums of interaction provided them with an opportunity to practice lexical items and grammatical structures. Participants mentioned that both mediums of interaction enabled them to recall and use vocabulary and access each other's lexical and grammatical items that they used in their essay writing. From an interactionist point of view, this kind of practice helped participants to improve their essay writing.

From a collaborative perspective, participants commented in both the interviews and the questionnaires that the two interactive mediums provided them with an opportunity to brainstorm

and build ideas that helped them in their essay writing. Participants also mentioned that the two modes of interaction helped them share vocabulary and ideas that later on helped them in structuring their content for the essay writing. I also found that participants developed a more positive attitude towards writing in Swahili and their motivation for writing increased. Kelm (1992) and Sotillo (2000) found similar findings on increased motivation and change in attitude in studies that they conducted. Participants commented that it was easier for them to write immediately after they had the two modes of interaction. I, however, noted that neither the S-CMC chat nor the face-to-face conversations caused participants to have longer essays over time, but instead the length of the essays either stagnated or decreased with time.

Participants also mentioned that the two modes of interaction had peculiar ways in which they impacted their writing. To start with, from an interactionist point of view, participants mentioned that the S-CMC chat provided them with an opportunity to practice spelling in such a manner that they could visually interact with the words that they were writing. This visual interaction with the words allowed them to reinforce the words more effectively than the face-to-face conversations that didn't provide them with an opportunity for interacting with the words, visually. Secondly, participants had the opinion that the S-CMC chat was more restrictive in their practice of linguistic structures. Thirdly, participants also felt that the language style during the S-CMC chat was more informal compared to the language they had during the face-to-face conversations. Participants had the opinion that in a normal writing session they would have more formal language than they would have in an S-CMC chat setting. This finding contradicts Warschauer (1996)'s when he argues that the language style in S-CMC chat is similar to that of the written texts. Fourth, exchanges in the S-CMC chat were slow compared to the communication exchange during the face-to-face. Participants commented that they spent much

time typing and waiting for responses from their interlocutors during the S-CMC chat. Finally, participants experienced a limited number of ideas due to the slow pace of the communication that they had during the S-CMC chat. Participants commented that face-to-face communications provided them with an opportunity to have more ideas and deeper discussions on the topics that I assigned to them and that they were able to retain some of the discussions that they had during the face-to-face conversation because the discussions went deeper than during the S-CMC chat.

From a collaborative perspective, participants had the opinion that they felt pressured to produce language in a fast manner during the face-to-face conversation sessions. During the S-CMC chat, participants produced language at their own pace, with not as much stress as there was with the face-to-face communication. Chun (1994) had similar findings in his study.

CHAPTER 7: DISCUSSION

In this chapter, I provide a general discussion of the entire study. I also discuss the implications of my study to the teaching of Swahili as a foreign language. In the section below, I will start with the impact of synchronous computer mediated communication on essay writing.

The impact of synchronous computer mediated communication on essay writing

With S-CMC chat, I expected that study participants would improve performance (in terms of amount of language, its complexity, and other aspects) in their essay writing as a result of engaging in S-CMC chat. My analysis confirmed part of the hypothesis that S-CMC chat had an impact on essay writing; but it also revealed other, new, findings.

From the perspective of the interactionist theory, the S-CMC chat interactions that the participants had, helped them generate comprehensible output. The comprehensible output pulled materials together from participants in a dyad, including spelling, lexical items, grammatical items, and ideas. In line with Warschauer (1997)'s argument with regards to comprehensible output in S-CMC chat, I found that the S-CMC chat sessions provided participants with an opportunity to generate comprehensible output to their partners. VanPatten (2004) extended Warschauer's point of view by arguing that a student juxtaposing their language output with another student's language output helps them to discover new knowledge that they may integrate into their interlanguage²⁴ system. In line with Warschauer and VanPatten's argument, I observed in all the S-CMC chat dyads that when a study participant juxtaposed their language with that of

²⁴ Interlanguage is the term for a dynamic linguistic system that has been developed by a learner of a second language (or L2) who has not become fully proficient yet but is approximating the target language: preserving some features of their first language (or L1), or overgeneralizing target language rules in speaking or writing the target language and creating innovations. <http://en.wikipedia.org/wiki/Interlanguage>

their interlocutor, it helped them discover new knowledge that they integrated into their interlanguage system.

Second, when I allowed participants to view their exchanges in writing, during their S-CMC chat, it enhanced the negotiation of meaning that was triggered by the lexical items they were using. The study participants negotiated lexical items during their S-CMC chat; hence, it provided them with an opportunity to acquire lexical items that they negotiated. Also, when participants had a chance to provide explanations about the lexical items that were negotiated, they tended to apply those lexical items to their essays. Interestingly, participants who received explanations of the negotiated lexical items did not transfer them to their essays despite the fact that they had requested explanations about them. It seemed that the negotiation of meaning process reinforced the lexical item for the participants who provided the explanation for the lexical items and didn't for the participant who sought the explanation. It is possible that providing participants with a one-time opportunity to negotiate meaning is not sufficient to lead to a strong retention of the negotiated lexical items. This suggests a possible revision to the interaction hypothesis, and warrants future investigations of how active a participant is in a meaning negotiation environment. A meaning negotiation situation worthy of investigating is one that has participants who are active in providing explanations for lexical items, and participants who just wait to receive information.

In contrast to lexical negotiations, there were not many grammar-triggered negotiations of meaning in the ten S-CMC chat sessions. In this respect, my findings differ from previous studies that showed that S-CMC chat provides students with an excellent opportunity to focus on form (Kelm, 1992; VanPatten, 2004). It is possible that participants' understanding of meaning was not greatly affected by the grammatical errors they were making. Politeness may also have

led to participants' not criticizing each other's grammatical structures. Qi & Lapkin (2001) argue that different levels of proficiency in a second language determine a student's ability to notice and be in a position to explain errors. As students' proficiency increases, they tend to be more aware of grammar and their attention to form increases (William, 2001). Participants in this study were in their fourth semester of studying Swahili and this probably limited their ability to correct each other's grammatical errors (Blake, 2000). Third, the reason may be how I structured the instructions for the S-CMC chat. In the instructions, I never asked the participants to correct each other during their S-CMC chat, but rather I simply instructed them to have a 20 minute S-CMC chat session.

The occurrence of just a few grammar-related negotiations of meaning indicates that future studies may go beyond grammar structures and find out if there are other linguistic elements that participants may consciously or unconsciously focus on during S-CMC chat sessions. One of the reasons to support this proposition is that participants tended to transfer linguistic structures from the S-CMC chat sessions to the essay writing sessions, indicating that they had other forms of linguistically triggered negotiations of meaning during the S-CMC chat sessions.

Participants also transferred lexical items and syntactic structures to their essay writing. I could trace ideas and content organization procedures used in the essays to the S-CMC chat sessions that participants had before writing their individual essays. Participants received comprehensible input and gave out comprehensible output during their S-CMC chat since many of the constructions that were in the S-CMC chat found their way to their essays. For this reason, I concluded that participants utilized the S-CMC chat sessions to prepare themselves before they embarked on their individual writing. The S-CMC chat environment provided them with an

opportunity to process their lexical items, syntactic structures, and ideas that they then utilized in the writing of their essays.

While still in the interactionist theory, the fourth point is related to how participants wrote their essays with high spelling, lexical, and syntactical qualities. An attempt to explain these high figures is that participants tended to utilize spelling, lexical items, and syntactic structures that they had utilized or come across during the meaning negotiation sessions. It may also be that participants did not find essay writing as lexically and grammatically challenging as it was with S-CMC chat. I also discovered great differences in the constructs of lexical richness, syntactic richness, content richness, organization, and holistic ratings across the essays that participants wrote immediately after the interactive sessions. From the scores in the above-mentioned constructs, I concluded that the topics that the participants discussed varied in their levels of difficulty. Some topics may have challenged the study participants with respect to their application of lexical items, syntactic structures, and generation of ideas or generally having good essay writing quality. For example, during the S-CMC chat, the ratings for writing session 1 were much higher than the ratings for writing sessions 2, 3, 4 and 5. This finding probably meant that the study participants were able to manage the topic *Vyakula vya Afrika ya Mashariki* (Food in East Africa) more easily than the other topics, probably because it is a topic that they had also covered during their first year of Swahili and they had also prepared some East African foods. In contrast, scores for the topic *Elimu na Vyuo katika Afrika ya Mashariki* (Education and Universities in East Africa) were much lower than those for the other writing sessions. This may have been caused by the topic education and learning institutions in East Africa being a difficult topic for the study participants to interact with or perhaps that they had not studied it enough. This finding is not surprising, since personal experiences and concrete topics are much easier to

write about than a topic that deals with impersonal experiences and abstract information (Breiner-Sanders et al., 2001). Breiner-Sanders et al. also argue that topics that are argumentative in nature are difficult and it is for this reason that I concluded that the topic *Ziara ya Safari katika Afrika ya Mashariki* (Going on a safari in East Africa) was a much easier topic than *Marais wa Afrika ya Mashariki* (East African presidents) in writing session 6. A number of the participants ended up comparing presidents and arguing in favor of the president they liked.

Fifth, immediately after the S-CMC chat, the essays that study participants wrote tended to decrease in length over time. This finding was different from the findings of two studies that Abrams (2003) and Kern (1995) conducted. Abrams and Kern argued that S-CMC chat enhances the production of the foreign language that someone is studying. My findings on S-CMC chat differed from Abrams (2003) and Kern (1995) studies in that the participants tended to produce less language in essay writing as the study progressed. I had a number of hypotheses with regards to the decrease in length of the essays. It may be that as the semester progressed, study participants (who were also students taking other courses at the university) needed time to focus on other studies. My second hypothesis was that, due to the letters of consent they signed, participants were aware that their involvement in the study was not part of their Swahili course grade. Third, the decrease in length may have been caused by the fact that for the 12-week study period, the study participants were not in an environment where Swahili language was written and spoken. They only interacted with Swahili language during the class and during the study period, and immediately after that they switched to their first language. This finding on essay length did not agree with the framework of the collaborative learning theory in the sense that participants having S-CMC chat did not translate them to writing longer essays over time.

With regards to the interactive session that preceded the essay writing, I found that the S-CMC chat provided participants with an effective collaborative learning environment for Swahili. The S-CMC chat provided participants with a relatively equal opportunity to interact and collaborate. The opportunity to interact and collaborate with their fellow participants benefited participants who had low ability in Swahili. It is, however, important to state that with the aspect of equality in interaction and collaboration, there were certain instances where some participants dominated the conversations. Storch (2004) argues that when participants have equal participation in an interaction, the flow of information has to come from both sides. An implication of this is that a language instructor needs to maintain equality in the students' interactions by sometimes intervening, participating, or even providing more specific task instructions. The issue of students benefiting from equal collaboration merits further research.

I also found that participants benefited from the scaffolding²⁵ that was accorded to them by their fellow interlocutors. I found that the more capable learners provided scaffolding to their interlocutors by giving them ideas and structure for their discussion. In the S-CMC chat, the more capable participants led the discussions and hence provided a productive structure for participants in a conversation to fill in ideas. Participants eventually applied the ideas and content structure that they had in the S-CMC chat to their essay writing in Swahili. From this observation, I can say that participants assisted their interlocutors within a zone of proximal

²⁵ Donato (1994) defined scaffolding as a "situation where a knowledgeable participant can create supportive conditions in which the novice can participate, and extend his or her current skills and knowledge to higher levels of competence" (p. 40)

development (ZPD)²⁶ through the ideas that they generated and through providing structures that interlocutors could apply later in their writing.

Besides scaffolding, participants also benefited each other through the linguistic elements that they generated during the S-CMC chat. They benefited each other in terms of spelling, lexical items, and grammatical structures and also from their experiences and ideas. In this study, participants spent much of their time generating ideas during the S-CMC chat and during the essay writing sessions they tended to apply the ideas that they got from the S-CMC sessions to their writing.

The final point on S-CMC chat was that participants became very aware of the audience they were writing to. I could tell from the interaction transcripts that as the semester progressed, the students felt much more at ease interacting with each other. Hyland (2002), Hamdaoui (2006) and Weissberg (2006) have argued that writing is a social act and writers need to learn how to interact with their target audience. S-CMC chat interactions in this study provided participants with an opportunity to learn how to interact with their target audience.

The impact of face-to-face conversations on essay writing

I expected that participants would perform better in a number of aspects in their Swahili essay writing as a result of having face-to-face conversations. When I analyzed the results, I discovered that the face-to-face conversations benefited the study participants with reference to the interactionist theory. The first of these benefits was that participants were provided with an opportunity to generate comprehensible input and output. The comprehensible input and output came in the form of lexical items, grammatical structures and ideas.

²⁶ The zone of proximal development often abbreviated ZPD, is the difference between what a learner can do without help and what he or she can do with help. It is a concept associated with soviet psychologist Lev Vygotsky (1896-1934) (1896–1934)

As expected, participants were able to negotiate meaning during the face-to-face interactive sessions. Lexical items for which participants sought the meaning mostly triggered the negotiation of meaning. Interestingly, just as it was with S-CMC chat, participants who sought explanations of lexical items never applied them in their essays but instead participants who provided explanation of the lexical items applied them in their essays. Also, the number of lexical items that were used was very minimal. It is possible that participants were not able to allocate enough time to specific lexical items because the face-to-face conversations contained much information. Different from the S-CMC chat, I found that participants had grammar-triggered negotiations of meaning during their face-to-face conversations and transferred some of them to their essay writing.

Participants did not transfer as much of the comprehensible input to their essay writing as I found in the S-CMC chat. They only transferred a limited number of syntactic structures and ideas from the face-to-face interactions to their essays. With the results from the transfer analysis, I found that participants developed new ideas in their essays in addition to some that they got from the face-to-face interactive sessions. They had in-depth discussions of topics during the face-to-face conversations, to the extent that they wanted to generate individual ideas for their essays, rather than having a wholesale transfer of ideas that they got from the interactive sessions to their essays. Participants also went ahead to develop new content for their essays that was a little different from what they had during the face-to-face interactive sessions. From this, I argue that participants only utilized the face-to-face sessions for brainstorming, which stimulated their generation of ideas that they applied in their essay writing.

Fourth, immediately after the face-to-face conversations, study participants wrote essays that had high spelling, lexical, and syntactic accuracy. This may have been brought about by

participants having spelling, lexical items and syntactical structures in their essays that they were confident about. Participants used in their essays a moderate percentage of lexical and syntactical structures from their face-to-face conversations. It is possible that participants had limited lexical and grammatical knowledge to apply in their essay writing because they didn't have enough time to focus on lexical items and grammatical structures during the face-to-face interactive sessions.

Fifth, I found that the length of the essays that the participants wrote either stagnated or kept on decreasing. Again, the decreasing length could have been a result of students getting engaged in other activities in the course of the semester or the participants were not motivated enough to continue writing long essays because they were not getting a grade for it. Another possible reason that may explain this phenomenon was that, throughout the study, participants were not immersed in Swahili language contexts. Much of their communication before and immediately after the study period for each day switched back to English. In the next paragraph, I will discuss the face-to-face conversations with reference to the collaborative learning theory.

I found that the face-to-face conversations provided the participants with a conducive environment for collaborating. To start with, the face-to-face conversations gave the study participants an opportunity to access each other's linguistic resources, including both lexical items and grammatical structures. The collaborative learning environment also gave the study participants an opportunity to exchange ideas and experiences and enhanced extensive discussion of the five topics that they had for the face-to-face conversations. I found that participants spent much of their time generating ideas for the topics I assigned to them. I, however, noted that the face-to-face conversations didn't provide participants with an equal chance to interact. Some participants dominated the conversations, a situation which was also noted by Jones et al., in a

study they conducted in 2006. Some participants either had higher language proficiency than others or they just had a more extroverted personality, which led them to speak more than their partners in the conversations. An implication for this in a classroom situation is that an instructor needs to intervene more often in order to ensure active involvement of students when they are having a conversation in the foreign language that they are learning.

Second, I also found that study participants tended to apply to their essays the ideas that they themselves raised during the face-to-face interactive sessions. Participants had a very small-scale application of ideas that their interlocutors raised. My explanation for this was that the face-to-face interaction helped the participants to be very aware of the knowledge that they had of the five topics and not necessarily taking wholesale the ideas that came from their interlocutors. This is a new finding, to the collaborative theory because, traditionally, it is expected that when people engage in face-to-face conversation, they are meant to benefit each other with new ideas.

Third, the face-to-face conversation provided study participants with an opportunity to scaffold each other. The scaffolding came in the form of language and ideas where the expert peers in the collaboration setting gave explanations of words and grammatical constructions whenever their partners seemed to struggle with them. The scaffolding brought about a smoother flow of communication, and for that reason, I confidently state that the face-to-face conversation sessions brought about a ZPD that came as a result of the language and content support that the more able participants provided.

Fourth, the face-to-face collaborative setting also helped participants to better understand their communication audience. They took into consideration the reactions and feelings of their interlocutors. When it came time for them to write their essays, they were keen to avoid what did

not work during the conversation and only transfer what really excited their interlocutors.

Weissberg (2006) argues that this kind of social mechanism is very important in the development of foreign language writing skills.

Fifth, when the study participants engaged in face-to-face conversations and wrote essays afterwards, it provided them with an opportunity to practice how to transform spoken Swahili to written Swahili. This kind of practice may provide learners of Swahili with an opportunity to be aware of different Swahili language styles and understand different contexts of applying those language styles.

Differences in the impact of S-CMC chat and face-to-face conversations in essay writing in Swahili

The results that I found showed that the two modes of interaction had similarities and differences that I discuss from an interactionist and collaborative perspective. As I mentioned in the previous paragraph, I found that the two modes of interaction benefited participants in their essay writing in ways that were in line with the interactionist theory. To start with, the two modes of interaction provided participants with exposure to comprehensible input and output. Participants subsequently utilized the input and output in the writing of their essays. In the essays that participants wrote immediately after the two interactive mediums, I could trace some of the linguistic, content and organization features to the interactive texts that preceded the essay writing. Secondly, in both interactive mediums, participants were provided with an opportunity to negotiate meaning that was triggered by the lexical items. There were occasions when the participants were able to transfer some of the lexical items that were negotiated to their texts. Thirdly, immediately after the two modes of interaction, participants had high performance in

their essay writing in the areas of lexical, syntactical, and spelling accuracy. It may be that participants only wrote with lexical and syntactical structures that they were comfortable with. Their focus on accuracy may have led participants to have a limited amount of lexical and grammatical structures in the essays that came immediately after the two modes of interaction. Finally, the length of the essays either stagnated or failed to have notable improvement over the study period.

From a collaborative learning theory perspective, I noted that the two modes of interaction provided participants with an effective environment for collaboration. Participants benefited from each other's linguistic resources, experiences, and ideas that each participant brought to the table. Participants spent much of their time generating ideas in both interactive mediums. In both mediums, ideas that participants exchanged later on helped those who were less capable in writing their individual essays. Additionally, the two modes of communication helped participants to understand their communication audience. They took into consideration the reactions and feelings that their interlocutors directed towards their language contribution during the conversation. When it came time for them to write their essays, they were keen to avoid what didn't work during the conversation and only transferred what really excited their interlocutors. Weisberg (2006) argues that the social and cognitive skills gained from the interactive sessions go towards helping participants in their writing owing to the fact that writing is also a social act.

Despite the above similarities, the two modes of interaction differed in the manner in which participants transferred materials from the two modes of interaction to their essays. The transfer of lexical, syntactical, idea units and content from the S-CMC chat to the essay writing was more direct than the one from the face-to-face conversations to the essays. I found that

participants transferred materials from the face-to-face conversations to the essay writing in a more selective manner. Participants had limited time to have extensive discussions in the S-CMC chat and hence they may have lacked deep thinking on the topics. Participants also needed time to type on the keyboard and wait for responses from their interlocutors. Having limited time for discussion may have led them to develop limited ideas and simple structures of their content. Third, participants provided their input and output in writing and this may have made it easier for them in the essay writing because they could easily transfer what they had written during the S-CMC chat to the essay writing sessions.

In contrast, with the face-to-face conversations participants had a selective transfer of ideas from their interactive sessions to the essay writing, and they also injected their own ideas and content into their essay writing. For that reason, their essays were more of an expansion of what transpired during the face-to-face conversations. In-depth discussion of topics in their face-to-face conversations may have stimulated their thinking on the topic, which allowed them to develop their own ideas and content beyond what appeared during the face-to-face interactive sessions.

Another difference between the two modes of communication was the degree to which participants engaged in negotiation of meaning. Participants had seven lexicon-related negotiation of meaning during the S-CMC chat while during the face-to-face communication they only had ten. With grammar-related negotiation of meaning, participants had four during the S-CMC chat, while during the face-to-face conversations, they had zero grammar-related negotiations of meaning. It may be that participants didn't require much negotiation of meaning during the S-CMC chat because the information was visually available to them as they went on with their typing. Secondly, participants tried to avoid negotiation of meaning during the S-CMC

chat because it required them to type and wait for responses from their interlocutors. I also noted that participants covered up their misunderstanding of certain lexical or grammatical structures by rather initiating subtopics of the main topics that they were discussing. In contrast, participants had many episodes of meaning negotiation during the face-to-face interactive sessions. Participants found it time efficient to ask for clarification and explanation of certain lexical and grammatical structures that they didn't understand before moving on with their discussions during the face-to-face communication sessions. The second thing that I noted with the negotiation of meaning during the S-CMC chat was that participants tended to transfer the lexical items that they negotiated during the S-CMC chat to the essay writing. This was a little different with the lexical items that participants negotiated during the face-to-face interactive sessions. Most of the lexical items that participants negotiated during the face-to-face interactive sessions they did not transfer to the essay writing sessions. During the face-to-face interactive sessions, participants only transferred three out of the sixteen lexical items to their essays. It may be that during the S-CMC chat, the study participants didn't feel pressured to communicate with immediacy, giving them an opportunity to process information at their own pace (Fernandez-Garcia & Martinez Arbelaz, 2002). However, during the face-to-face conversation sessions, participants may have felt pressured to go at the pace of their interlocutors, hence, leading them not to allocate enough time to attend to specific linguistic items. Payne and Ross (2005) found that foreign language learners with different working memories had different ways in which their oral proficiency developed because each foreign language learner is unique in the way they focus on certain linguistic items. Payne and Ross's argument may explain the reason why participants transferred to their essays few lexical and grammatical items that were negotiated.

Third, I found that the length of the essays from the face-to-face interactions had a significantly greater mean than the length of the essays from the S-CMC chat. I noted this phenomenon at both the individual level and the group level. This phenomenon may have been caused by the fact that since participants produced more language during the face-to-face interactions than the S-CMC chat, they had abundant ideas to transfer to the writing sessions, hence, leading them to generate longer essays immediately after the face-to-face conversation sessions. Fourth, I noted that although the face-to-face interactions had higher lexical, grammatical and content quality scores than the S-CMC chat, that did not translate to the essays that they wrote immediately after face-to-face conversations. Instead, the spelling accuracy and the lexical richness scores in the essays that participants wrote immediately after the S-CMC chat sessions were higher (for both group and individual participants) than those that resulted from the face-to-face communications. This might have been brought about by participants having much visual access to the lexical items and this probably helped them during their essay writing. I also found that the mean organization and holistic scores for the essays that participants wrote immediately after the S-CMC chat were higher than those for the essays that resulted from the face-to-face conversations. I took this to mean that participants basically transferred their S-CMC chat contents to their essays. This was their second chance at writing after spending the first writing session in the S-CMC chat and hence they were bound to generate essays with higher organization and holistic scores than the essays that they wrote immediately after the face-to-face conversations. It is, however, important that I mention that the participants seemed to have new ideas and content for the essays that did not appear during their face-to-face conversation sessions. This may have been brought about by the face-to-face conversation sessions helping the participants to have a deeper thinking process, which was critical in

developing their higher cognitive skills and strategies that they used in writing their essays. Having new ideas and new content in their essays did not, however, mean that they had higher organization and holistic scores on their essays, as I found in the essays that came immediately after the S-CMC chat interactive sessions.

Pertaining to the collaborative theory, there were different characteristics for the two interactive mediums. First of all, I noted that the dyadic interactions that transpired among participants during the S-CMC chat reflected a relatively more equal collaborative pattern than the ones during the face-to-face interactive sessions. Warschauer and Beauvois noted similar findings in studies that they conducted in 1996 and 1998. The equal collaboration during the S-CMC chat provided the participants with power to manage their contribution to the conversation and hence helped those whose language proficiency was low. With the face-to-face conversations, however, participants had unequal contribution to the conversations and some of them dominated the conversations more than they did during the S-CMC chat. This may have been brought about by participants whose proficiency in Swahili was higher or who had a more extroverted personality contributing more to the face-to-face conversation. A pedagogical implication for this is that instructors of Swahili need to provide more specific instructions for face-to-face interaction in a classroom situation or establish different guidelines for dyad membership.

The second observation that I made was that in the essays that participants wrote immediately after the S-CMC chat, the participants utilized many ideas that resulted from the S-CMC chat. In the essays that participants wrote immediately after the face-to-face conversations, the participants tended to incorporate ideas that they generated during the face-to-face conversations. This may have been brought about by participants having limited ideas from the

S-CMC chat and hence being easily tempted to incorporate them into their essays that came immediately after the conversations. With the face-to-face conversations, participants had a lot of ideas that stimulated a deeper thinking process that made them have a better understanding of the topics. This deeper thinking process may have led the participants to generate more ideas and constructions for their essays rather than just transfer all the ideas that transpired during the face-to-face conversations to their essays. An implication for this in a Swahili classroom situation is that instructors need to provide students with face-to-face conversation sessions because it promotes cognitive skills that are required in the development of essay writing strategies.

Third, I also noted some differences in the focus of the discussion associated with each interactive medium. In the face-to-face conversations, I noted that the participants didn't devote as much time to social greetings as I noted in the S-CMC chat. This may have been caused by the fact that participants were physically present during the face-to-face conversation and could see each other, hence, they did not find it necessary to devote much time to social greetings. In the S-CMC chat, however, the participants couldn't see each other face-to-face, a situation which may have led them to devote a much longer time to social greetings. I also found that the S-CMC chat had few spelling-related episodes compared to the pronunciation episodes that were associated with the face-to-face conversations. This may have been caused by the fact that participants had visual access to the spelling of the lexical items from the interactions and, hence, they didn't require much explanation for them. During the face-to-face conversations, the participants requested the repetition or clarification of lexical items that were not clear to them.

Students' perceptions

I used research questions 1, 2 and 3 to address the linguistic and interactional features that were associated with the two modes of interaction and the essays that participants wrote immediately after the two modes of interaction. With research question 4, I addressed the issue of the participants' perceptions concerning the two modes of interaction that they used. The question that I tried to answer with research question 4 was how do learners of Swahili as a foreign language perceive the S-CMC chat and face-to-face conversations as interactive tools that they can use for learning writing of Swahili?

The prediction that I initially made was that participants would perceive S-CMC chat and face-to-face communications as beneficial tools that would help them in developing their writing of Swahili essays, especially in the areas of grammatical accuracy, complexity of Swahili language production, fluency, providing a stress-free or generally a conducive environment for practicing writing or providing them with higher motivation for learning Swahili as a foreign language. The results that I found in the analysis confirmed some of the predictions but also brought new findings. In the next paragraph, I use both the theories of interaction and collaboration to report the similarities and the differences that the participants had for the S-CMC chat and face-to-face communications.

From the interviews and the information from the questionnaires, participants mentioned that both mediums of interaction provided them with an opportunity to practice lexical items and grammatical structures. Participants mentioned that both mediums of interaction enabled them to recall and use vocabulary and access each other's lexical and grammatical items that they used in their essay writing. From an interactionist point of view, this kind of practice helped participants to improve their essay writing.

From a collaborative perspective, participants commented in both the interviews and the questionnaires that the two interactive mediums provided them with an opportunity to brainstorm and build ideas that helped them in their essay writing. Participants also mentioned that the two modes of interaction helped them share vocabulary and ideas that later on helped them in structuring their content for the essay writing. I also found that participants developed a more positive attitude towards writing in Swahili and their motivation for writing increased. Kelm (1992) and Sotillo (2000) found similar findings on increased motivation and change in attitude in studies that they conducted. Participants commented that it was easier for them to write immediately after they had the two modes of interaction. I, however, noted that neither the S-CMC chat nor the face-to-face conversations caused participants to have longer essays over time, but instead the length of the essays either stagnated or decreased with time.

Participants also mentioned that the two modes of interaction had peculiar ways in which they impacted their writing. To start with, from an interactionist point of view, participants mentioned that the S-CMC chat provided them with an opportunity to practice spelling in such a manner that they could visually interact with the words that they were writing. This visual interaction with the words allowed them to reinforce the words more effectively than the face-to-face conversations that didn't provide them with an opportunity for interacting with the words, visually. Secondly, participants had the opinion that the S-CMC chat was more restrictive in their practice of linguistic structures. Thirdly, participants also felt that the language style during the S-CMC chat was more informal compared to the language they had during the face-to-face conversations. Participants had the opinion that in a normal writing session they would have more formal language than they would have in an S-CMC chat setting. This finding contradicts Warschauer (1996)'s when he argues that the language style in S-CMC chat is similar to that of

the written texts. Fourth, exchanges in the S-CMC chat were slow compared to the communication exchange during the face-to-face. Participants commented that they spent much time typing and waiting for responses from their interlocutors during the S-CMC chat. Finally, participants experienced a limited number of ideas due to the slow pace of the communication that they had during the S-CMC chat. Participants commented that face-to-face communications provided them with an opportunity to have more ideas and deeper discussions on the topics that I assigned to them and that they were able to retain some of the discussions that they had during the face-to-face conversation because the discussions went deeper than during the S-CMC chat.

From a collaborative perspective, participants had the opinion that they felt pressured to produce language in a fast manner during the face-to-face conversation sessions. During the S-CMC chat, participants produced language at their own pace, with not as much stress as there was with the face-to-face communication. Chun (1994) had similar findings in his study.

In general, with research question 4, study participants had the opinion that both face-to-face and S-CMC chat provided them with an opportunity to practice linguistic structures, build ideas and exchange linguistic structures and ideas with their interlocutors. Participants, however, commented that the face-to-face conversations provided them with a better opportunity to practice linguistic structures and lexical items and also have much deeper discussions. In the section below, I discuss the implication of my study findings for foreign language research and teaching. I also incorporate the limitations of this study in the same section.

Research Implications and Limitations

Interactive discussion sessions hold promise for improving essay writing in Swahili and other less commonly taught languages. My findings generally indicate that interactive

conversations carried out before essay writing in Swahili have a positive impact on the essays that students write. Such a relation is, however, dependent on factors such as the focus of the interaction, the depth of the interaction, equality in the collaboration, the difficulty of the task, students' learning styles, and their personalities.

Further research is required in the area of transfer from the interaction to the essay writing session. In the current study, I showed that face-to-face conversations provided participants with an opportunity to think more deeply about the topics during their essay writing.

Future researchers may also want to pursue the area of different learning styles. A specific area would be how an interactive medium may impact students according to their learning style.

Another potential area for future research is the time allocated for study. I conducted this study for twelve weeks. This time frame should be expanded in future studies in order to better establish certain learning effects and relationships.

With regards to tasks, I only had ten for this study. Although the sample size was small it was enough of a sample for this study given the fact that a small sample size is typical of qualitative research. The enormous data that resulted from the study also required a smaller sample size that I could handle. Future studies need to be conducted with a bigger sample size.

Finally, in this study I utilized free discussion tasks only, and for that reason my findings may not be generalized to other types of tasks such as jigsaw tasks. Future research may, therefore, include other types of tasks.

Conclusion

From the study it is evident that interactive practice may provide students of Swahili with linguistic resources that they need in the writing of their essays. Collaborative practice, on the other hand, provides students with social skills that they need in learning how to write their essays.

Speaking-to-write activities need to be encouraged in a Swahili writing class. When students are provided an opportunity to speak before writing their essays, it stimulates a deeper thinking process in them. The speaking and writing approach also creates a social learning approach in a Swahili class that connects speaking and the writing of Swahili essays. It is, however, important to mention that with the speaking to write approach, the more able learners may dominate the speaking session at the expense of the less able ones.

Third, it is also important for Swahili instructors to take into consideration the language proficiency levels of their students before pairing them up. Students may be more comfortable with S-CMC chat or face-to-face conversation because it aligns with their proficiency levels or learning styles.

Last but not least, there is a need for changes in the structural framework for training instructors of foreign languages. Instructors should be exposed to current research about writing in the foreign languages that they teach, including the connections that exist between S-CMC chat and face-to-face communications and essay writing.

APPENDIX A. STUDENT INFORMED CONSENT DOCUMENT

Project Title: “The impact of interactive and collaborative discussions on essay writing in Swahili as a foreign language”

Principal Investigator: David Kyeu kyeu@wisc.edu

Researcher’s Contact: David Kyeu, kyeu@wisc.edu; Tel: 608.721.3031

WHAT IS THIS STUDY ABOUT?

We are inviting you to participate in this research study because you are currently studying Swahili at the intermediate or advanced levels. The purpose of this research study is to investigate how students of Swahili interact with one another in face-to-face conversations and in a written computer chat environment and the relationship of these two interactive activities to the development of composition skills. Between 10 and 24 people will take part in this study. If you agree to take part in this study, your involvement will last for about 11 weeks.

WHAT WILL HAPPEN DURING THIS STUDY?

To begin with, it’s important to mention that only consenting students will participate in the activities mentioned below (i.e. the 10 sessions and interview). If you choose to participate you will be asked to:

- (3) fill out a simple questionnaire in English about your study of Swahili,
- (4) participate in 10 fifty five-minute interactive sessions in Swahili scheduled throughout the duration of the Spring semester at approximately weekly intervals, and
- (5) meet with the researcher on two separate occasions. On the first occasion the researcher will conduct with you in English a twenty-minute interview about your perceptions about the two modes of interaction. On the second occasion, you will be asked to fill out a questionnaire in English concerning the same topic.

The initial questionnaire asks your name, age, gender, email address, name of the Swahili course you are taking, length of time you have been studying Swahili as a foreign language, and how you would rate your skills in writing compositions in Swahili as a foreign language. You may skip any questions that you do not wish to answer.

The ten 55-minutes sessions will be comprised of two parts. The first part is a 20-minute interactive activity via face book chat and face-to-face communication. You will be paired with another student for the two 20-minutes interactive activities. For face book chat, you will open a new face book account that you will use with your partner throughout the study period. After the study is over, you will be required to unfriend your partner and close the face book account. Instructions will be provided at the beginning of study on how to befriend and unfriend your partner after the study is over. The second part is writing a composition by hand in which you will be asked to write for no longer than 30 minutes about the topics discussed in the preceding interactive activity. You will be provided with a paper to write your composition. There will be a five-minute break in between the two parts. Five of the interactive activities will be conducted as pairs in my presence in my office. The other five interactive activities will be conducted in the computer lab on the fourth floor of Van Hise Hall.

The compositions will be composed individually in a convenient location, either in a T.A. office or the study room on the fourth floor of Van Hise Hall. The online chat and face-to-face sessions will alternate from week to week. The researcher will save the chat logs from your online chats

for 7 years for the purposes of transcription and analysis. The face-to-face sessions will be used for transcription and analysis and will be saved as .mp3 files for 7 years.

AUDIAL RECORDINGS

One aspect of this study involves making audial recordings of your face-to-face interactive conversations about the various topics as well as your face-to-face interview with the researcher. The audial recordings will help the researcher to understand how you interact with each other during the face-to-face interactive activities. All the audial recording files will be saved as .mp3 files and stored on the researcher's computer, which requires a password to access. Only the research team will have access to them. Audial files will be used for transcription and analysis purposes only and will be kept securely for 7 years.

WHAT ARE THE RISKS OF THIS STUDY?

There are no anticipated risks to this study. Information collected for this study will not be used to determine your course grade; your decision whether or not to participate in this study will not be used by the course instructor to determine course grades.

WHAT ARE THE BENEFITS OF THIS STUDY?

You will not benefit personally from being in this study except through the additional practice afforded to you to discuss topics related to your class.

COMPENSATION

You will not be paid for being in this research study. However, your teacher has agreed to count each 55-minute session as equivalent to participation at one language table session. Your instructors will still conduct their regular language tables, which you will be free to attend whether or not you choose to participate in this study.

PRIVACY AND CONFIDENTIALITY

The only persons having access to data will be the research team. The researcher will be the only third party present at the face-to-face interactions. Each student will work on her/his own password-protected computer in the computer lab. Each of the participants will be given a code name only known by the researcher. The researcher will use a code number and not the participant names to identify the data collected. The researcher will store the master key linking the code number to the names in a secure place. The researcher will store all data securely in room B439 of the Medical Science Building, which is a locked UW-Madison office. All electronic files will be stored on a UW-Madison server. Both online chat logs and audio recordings will be securely maintained for 7 years. We also make clear that no data published will be linked in any way to the identities of participants.

IS BEING IN THIS STUDY VOLUNTARY?

Taking part in this research study is completely voluntary. You may choose not to take part at all. If you decide to be in this study, you may stop participating at any time. If you decide not to be in this study, or if you stop participating at any time, you will not be penalized or lose any benefits for which you otherwise qualify.

CONTACT INFORMATION

If you have any questions about this research study, please contact: David Kyeu at **kyeu@wisc.edu** or the Principal investigator, Prof. Dustin Cowell at **dccowell@wisc.edu**. If you have questions, concerns, or complaints about your rights as a research participant or about a research related injury, please contact the UW-Madison's IRB office. Their contact information is (608) 262-9710; **edirb@education.wisc.edu**

Participant's Name (printed)
MM/DD/YYYY

Signature

Date:

APPENDIX B. DEMOGRAPHIC QUESTIONNAIRE

(Please Print/Write Legibly)

Code Name _____

Age _____

Gender (circle one): Female / Male

Swahili course name _____

How long have you been learning Swahili?	<input type="text"/> Years in high school <input type="text"/> Semesters in college/university in the U.S.
Have you ever studied Swahili in a Swahili speaking country before this semester? If yes, please specify.	<input type="text"/> Yes <input type="text"/> No <input type="text"/> Weeks <input type="text"/> Months <input type="text"/> Years
What are your goals in studying Swahili?	Check the one that applies to you best: <input type="text"/> Complete the language requirement; I do not intend to study more Swahili after that. <input type="text"/> I am here mainly for the requirement, but I like Swahili and may continue after this semester. <input type="text"/> I plan to minor/major in Swahili. (circle one)
How would you rate your skills in writing Swahili essays?	Excellent <input type="text"/> Good <input type="text"/> Fair <input type="text"/> Poor <input type="text"/>
Have you taken any course where Swahili writing was the primary emphasis of the course? If yes, please specify.	<input type="text"/> Yes Name of the course _____ <input type="text"/> No

APPENDIX C. FREE DISCUSSION TASK 1 (FACE-TO-FACE DISCUSSION SESSION)**Instructions for the topic of discussion:**

“Today you and your conversation partner have 20 minutes to discuss the following topic in Swahili with the avoidance of any other language. Try your best to use appropriate vocabulary and correct grammatical structures, with attention to spelling.”

Week 1 (FACE-TO-FACE)

Aina za usafiri katika Afrika ya mashariki
(Modes of transportation in East Africa)

Instructions for the post interaction (face-to-face) individual essay writing:

“On the lined paper provided, you have 30 minutes to write individually in Swahili about the topic that you have just discussed with your partner and restated below. Be certain not to use any language other than Swahili. Try your best to write as extensively and sophisticatedly as possible within the time constraint, with due attention to breadth of vocabulary, grammar, spelling and the logical flow of ideas. In the last five minutes, review what you have written and make corrections as appropriate. We want to see how much you can produce without ignoring grammar and style.”

Week 1 (FACE-TO-FACE)

Aina za usafiri katika Afrika ya mashariki
(Modes of transportation in East Africa)

APPENDIX D. FREE DISCUSSION TASK 2 (COMPUTER MEDIATED DISCUSSION SESSION)**Instructions for the topic of discussion via Facebook:**

“Today you and your conversation partner have 20 minutes to discuss the following topic in Swahili with the avoidance of any other language. Try your best to use appropriate vocabulary and correct grammatical structures, with attention to spelling.”

Week 2 (Computer-mediated)
Vyakula vya Afrika mashariki
(Types of foods in East Africa)

Instructions for the post interaction (Facebook) individual essay writing:

“On the lined paper provided, you have 30 minutes to write individually in Swahili about the topic that you have just discussed with your partner and restated below. Be certain not to use any language other than Swahili. Try your best to write as extensively and sophisticatedly as possible within the time constraint, with due attention to breadth of vocabulary, grammar, spelling and the logical flow of ideas. In the last five minutes, review what you have written and make corrections as appropriate. We want to see how much you can produce without ignoring grammar and style.”

Week 2 (Computer-mediated)
Vyakula vya Afrika mashariki
(Types of foods in East Africa)

APPENDIX E. FREE DISCUSSION TASK 3 (FACE-TO-FACE DISCUSSION SESSION)**Instructions for the topic of discussion:**

“Today you and your conversation partner have 20 minutes to discuss the following topic in Swahili with the avoidance of any other language. Try your best to use appropriate vocabulary and correct grammatical structures, with attention to spelling.”

Week 3 (FACE-TO-FACE)

Watu mbalimbali wa nchi za Afrika ya Mashariki
(Kinds of people in East Africa)

Instructions for the post interaction (face-to-face) individual essay writing:

“On the lined paper provided, you have 30 minutes to write individually in Swahili about the topic that you have just discussed with your partner and restated below. Be certain not to use any language other than Swahili. Try your best to write as extensively and sophisticatedly as possible within the time constraint, with due attention to breadth of vocabulary, grammar, spelling and the logical flow of ideas. In the last five minutes, review what you have written and make corrections as appropriate. We want to see how much you can produce without ignoring grammar and style.”

Week 3 (FACE-TO-FACE)

Watu mbalimbali wa nchi za Afrika ya Mashariki
(Kinds of people in East Africa)

APPENDIX F. FREE DISCUSSION TASK 4 (COMPUTER MEDIATED DISCUSSION SESSION)**Instructions for the topic of discussion via Facebook:**

“Today you and your conversation partner have 20 minutes to discuss the following topic in Swahili with the avoidance of any other language. Try your best to use appropriate vocabulary and correct grammatical structures, with attention to spelling.”

Week 4 (Computer-mediated)

Marais wa nchi za Afrika ya mashariki

(The presidents of different countries in East Africa)

Instructions for the post interaction (Facebook) individual essay writing:

“On the lined paper provided, you have 30 minutes to write individually in Swahili about the topic that you have just discussed with your partner and restated below. Be certain not to use any language other than Swahili. Try your best to write as extensively and sophisticatedly as possible within the time constraint, with due attention to breadth of vocabulary, grammar, spelling and the logical flow of ideas. In the last five minutes, review what you have written and make corrections as appropriate. We want to see how much you can produce without ignoring grammar and style.”

Week 4 (Immediately after Computer-mediated interaction)

Marais wa nchi za Afrika ya mashariki

(The presidents of different countries in East Africa)

APPENDIX G. FREE DISCUSSION TASK 5 (FACE-TO-FACE DISCUSSION SESSION)**Instructions for the topic of discussion:**

“Today you and your conversation partner have 20 minutes to discuss the following topic in Swahili with the avoidance of any other language. Try your best to use appropriate vocabulary and correct grammatical structures, with attention to spelling.”

Week 5 (FACE-TO-FACE)

Vyuo vikuu na elimu katika Afrika ya mashariki
(Universities and education in East Africa)

Instructions for the post interaction (face-to-face) individual essay writing:

“On the lined paper provided, you have 30 minutes to write individually in Swahili about the topic that you have just discussed with your partner and restated below. Be certain not to use any language other than Swahili. Try your best to write as extensively and sophisticatedly as possible within the time constraint, with due attention to breadth of vocabulary, grammar, spelling and the logical flow of ideas. In the last five minutes, review what you have written and make corrections as appropriate. We want to see how much you can produce without ignoring grammar and style.”

Week 9 (FACE-TO-FACE)

Shughuli za biashara katika Afrika ya Mashariki
(Day to day business related activities of East African people)

APPENDIX H. FREE DISCUSSION TASK 6 (COMPUTER MEDIATED DISCUSSION SESSION)**Instructions for the topic of discussion via Facebook:**

“Today you and your conversation partner have 20 minutes to discuss the following topic in Swahili with the avoidance of any other language. Try your best to use appropriate vocabulary and correct grammatical structures, with attention to spelling.”

Week 6 (Computer-mediated)

Miji mbalimbali ya Afrika mashariki

(Cities found in East Africa)

Instructions for the post interaction (Facebook) individual essay writing:

“On the lined paper provided, you have 30 minutes to write individually in Swahili about the topic that you have just discussed with your partner and restated below. Be certain not to use any language other than Swahili. Try your best to write as extensively and sophisticatedly as possible within the time constraint, with due attention to breadth of vocabulary, grammar, spelling and the logical flow of ideas. In the last five minutes, review what you have written and make corrections as appropriate. We want to see how much you can produce without ignoring grammar and style.”

Week 6 (Computer-mediated)

Miji mbalimbali ya Afrika mashariki

(Cities found in East Africa)

APPENDIX I. FREE DISCUSSION TASK 7 (FACE-TO-FACE DISCUSSION SESSION)**Instructions for the topic of discussion:**

“Today you and your conversation partner have 20 minutes to discuss the following topic in Swahili with the avoidance of any other language. Try your best to use appropriate vocabulary and correct grammatical structures, with attention to spelling.”

Week 8 (FACE-TO-FACE)

Lugha mbalimbali za Afrika ya mashariki
(Languages spoken in East Africa)

Instructions for the post interaction (face-to-face) individual essay writing:

“On the lined paper provided, you have 30 minutes to write individually in Swahili about the topic that you have just discussed with your partner and restated below. Be certain not to use any language other than Swahili. Try your best to write as extensively and sophisticatedly as possible within the time constraint, with due attention to breadth of vocabulary, grammar, spelling and the logical flow of ideas. In the last five minutes, review what you have written and make corrections as appropriate. We want to see how much you can produce without ignoring grammar and style.”

Week 8 (FACE-TO-FACE)

Lugha mbalimbali za Afrika ya mashariki
(Languages spoken in East Africa)

APPENDIX J. FREE DISCUSSION TASK 8 (COMPUTER MEDIATED DISCUSSION SESSION)**Instructions for the topic of discussion via Facebook:**

“Today you and your conversation partner have 20 minutes to discuss the following topic in Swahili with the avoidance of any other language. Try your best to use appropriate vocabulary and correct grammatical structures, with attention to spelling.”

Week 9 (Computer-mediated)

Dini za Afrika ya mashariki
(Religions found in East Africa)

Instructions for the post interaction (Facebook) individual essay writing:

“On the lined paper provided, you have 30 minutes to write individually in Swahili about the topic that you have just discussed with your partner and restated below. Be certain not to use any language other than Swahili. Try your best to write as extensively and sophisticatedly as possible within the time constraint, with due attention to breadth of vocabulary, grammar, spelling and the logical flow of ideas. In the last five minutes, review what you have written and make corrections as appropriate. We want to see how much you can produce without ignoring grammar and style.”

Week 9 (Computer-mediated)

Dini za Afrika ya mashariki
(Religions found in East Africa)

APPENDIX K. FREE DISCUSSION TASK 9 (FACE-TO-FACE DISCUSSION SESSION)**Instructions for the topic of discussion:**

“Today you and your conversation partner have 20 minutes to discuss the following topic in Swahili with the avoidance of any other language. Try your best to use appropriate vocabulary and correct grammatical structures, with attention to spelling.”

Week 10 (FACE-TO-FACE)

Shughuli za biashara katika Afrika ya Mashariki
(Day to day business-related activities of East African people)

Instructions for the post interaction (face-to-face) individual essay writing:

“On the lined paper provided, you have 30 minutes to write individually in Swahili about the topic that you have just discussed with your partner and restated below. Be certain not to use any language other than Swahili. Try your best to write as extensively and sophisticatedly as possible within the time constraint, with due attention to breadth of vocabulary, grammar, spelling and the logical flow of ideas. In the last five minutes, review what you have written and make corrections as appropriate. We want to see how much you can produce without ignoring grammar and style.”

Week 10 (FACE-TO-FACE)

Shughuli za biashara katika Afrika ya Mashariki
(Day to day business-related activities of East African people)

APPENDIX L. FREE DISCUSSION TASK 10 (COMPUTER MEDIATED DISCUSSION SESSION)**Instructions for the topic of discussion via Facebook:**

“Today you and your conversation partner have 20 minutes to discuss the following topic in Swahili with the avoidance of any other language. Try your best to use appropriate vocabulary and correct grammatical structures, with attention to spelling.”

Week 11 (Computer-mediated)

Ziara ya safari katika Afrika mashariki

(Visiting animal parks and game reserves in East Africa)

Instructions for the post interaction (Facebook) individual essay writing:

“On the lined paper provided, you have 30 minutes to write individually in Swahili about the topic that you have just discussed with your partner and restated below. Be certain not to use any language other than Swahili. Try your best to write as extensively and sophisticatedly as possible within the time constraint, with due attention to breadth of vocabulary, grammar, spelling and the logical flow of ideas. In the last five minutes, review what you have written and make corrections as appropriate. We want to see how much you can produce without ignoring grammar and style.”

Week 11 (Computer-mediated)

Ziara ya safari katika Afrika mashariki

(Visiting animal parks and game reserves in East Africa)

APPENDIX M. INTERVIEW PROTOCOL

Interviewee's code name _____ Time of the interview _____ Swahili level _____

Part I: General questions

1) How often do you write in Swahili? Do you like to write in Swahili? Why or why not?

2) What do you think about the learning of Swahili writing in general? What aspects are easy for you? What aspects are difficult for you?

3) What do you usually do to practice Swahili writing?

4) Do you consider yourself a good writer in Swahili? What do you think are your strengths and weaknesses in Swahili writing?

5) Do you chat online in Swahili? If yes, when and with whom? If not, why not?

Part II: Discuss the process of moving from computer mediated communication /FTF session to individual writing

1) What kind of practice did you get from the online chat sessions? How did it affect your writing afterwards? Please explain.

2) What kind of practice did you get from the FTF sessions? How did it affect your writing afterwards? Please explain.

Part III: Discuss the perceptions of using online computer mediated communication/FTF conversation to learn Swahili Writing

1) How do you feel about using computer-mediated communication in general as a means for practicing Swahili writing? What are the advantages and disadvantages? Please explain.

2) How do you feel about using FTF conversation in general as a means for practicing Swahili writing? What are the advantages and disadvantages? Please explain.

3) In the future, are you likely to use computer mediated communication chat to help you with your Swahili writing?
Why or why not? Please explain.

4) In the future, are you likely to talk about your ideas with another person before you write by yourself? Why or why not? Please explain.

APPENDIX N. END OF STUDY QUESTIONNAIRE

Participant's code name _____

1) In your viewpoint, what are the advantages of having a computer mediated discussion session with your classmate before you write individually about the topic? List as many as you can think of.

2) In your viewpoint, what are the disadvantages of having a computer mediated discussion session with your classmate before you write individually about the topic? List as many as you can think of.

3) In your viewpoint, what are the advantages of discussing face-to-face with your classmate before you write individually about the topic? List as many as you can think of.

4) In your viewpoint, what are the disadvantages of discussing face-to-face with your classmate before you write individually about the topic? List as many as you can think of.

APPENDIX O. HOLLISTIC RATING SCALE FOR RATING WRITTEN ESSAYS

Revised based on ACTFL proficiency guidelines (2012) and Song and Caruso (1996)

Score	General qualities
5	The essay provides a well-organized response to the topic. Contents are well developed and have a good variety of ideas. Vocabulary is proper and well suited and demonstrates good diversity. Sentences structures are suitable and accurate and demonstrate good variety. Grammar, spelling, and punctuation are generally free from error.
4	The essay provides an organized response to the topic. Contents are clear for most of the time and have some variety of ideas. Vocabulary is suitable and correct for the most part and demonstrates some diversity. Sentences structures are grammatically correct for most of the time and demonstrate some variety. There are some errors in grammar, spelling, and punctuation, but do not interfere with the reader's comprehension.
3	The essay provides a basic response to the topic. Contents are understandable but are unsophisticated. Vocabulary in general is appropriate but has limited diversity. Sentences structures are limited and there are also some grammatical errors. There are frequent errors in grammar, spelling, and punctuation, and occasionally interferes with reader's comprehension.
2	The composition provides a response to the topic but it's not developed. Contents are repetitive and undeveloped, and hard to follow sometimes. Vocabulary is restricted and often misused. Sentence structures are limited and there are grammatical errors. There are serious errors in grammar, spelling, and punctuation, which significantly interferes with reader's comprehension.
1	The essay has no discernible pattern in organization. Contents in general are not understandable. Vocabulary is narrow in range and often misused. There are only a few basic sentence patterns and errors exist. Frequent errors in grammar, spelling, and punctuation make the writing hard to understand.

APPENDIX P. FOCUS AREAS IN THE S-CMC CHAT SESSIONS

Table P-1 Dyad Abdi/Bibi's focus areas in the S-CMC chat sessions

Number and percentage of turns on each focus area					
Focus area	Interaction 1	Interaction 2	Interaction 3	Interaction 4	Interaction 5
Social greetings	5 (21.7%)	2 (10.5%)	2 (8%)	2 (12.5%)	2 (8.7%)
Task management	0	2 (10.5%)	2 (8%)	1 (6.25%)	2 (8.7%)
Interpreting task prompt	0	0	3 (12%)	0	0
Generating ideas	13 (56.5%)	10 (52.6%)	13 (52%)	9 (56.25%)	15 (65.2%)
Lexicon-related episodes	2 (8.7%)	3 (15.8%)	2 (8%)	2 (12.5%)	2 (8.7%)
Grammar-related episodes	0	0	0	0	0
Spelling episodes	1 (4.4%)	0	0	0	0
Talking off-topic	0	0	2 (8%)	0	0
Taking leave	2 (8.7%)	2 (10.5%)	1 (4%)	2 (12.5%)	2 (8.7%)
Total	23	19	25	16	23

Table P-2 Dyad Chapa/Dalili's focus areas in the S-CMC chat sessions

Number and percentage of turns on each focus area					
Focus area	Interaction 1	Interaction 2	Interaction 3	Interaction 4	Interaction 5
Social greetings			2 (6.7%)	2 (8.3%)	4 (12.5%)
Task management			0(0%)	1 (4.2%)	3 (9.4%)
Interpreting task prompt			3 (10%)	0	0
Generating ideas			21 (70%)	16 (66.7%)	20 (62.5%)
Lexicon-related episodes			2 (6.7%)	5 (20.8%)	2 (6.25%)
Grammar-related			0	0	0

episodes					
Spelling episodes			0	0	0
Talking off-topic			0 (0%)	0	0
Taking leave			2 (6.7%)	0 (0%)	4 (12.5%)
Total			30	24	32

Table P-3 Dyad Eleza/Furaha's focus areas in the S-CMC chat sessions

Number and percentage of turns on each focus area					
Focus area	Interaction 1	Interaction 2	Interaction 3	Interaction 4	Interaction 5
Social greetings	4 (7.8%)	3 (11.1%)	2 (4.3%)	2 (5.56%)	1 (2.9%)
Task management	0	2 (7.4%)	2 (4.3%)	0 (0%)	1 (2.9%)
Interpreting task prompt	0	1 (3.7%)	1 (2.2%)	2 (5.56%)	0
Generating ideas	42 (82.4%)	18 (66.7%)	24 (52.2%)	29 (80.56%)	28 (82.4%)
Lexicon-related episodes	1 (1.96%)	0	7 (15.2%)	0	1 (2.9%)
Grammar-related episodes	1 (1.96%)	0	0	0	0
Spelling episodes	0	0	0	0	1 (2.9%)
Talking off-topic	1 (1.96%)	2 (7.4%)	2 (4%)	0	0
Taking leave	2 (3.9%)	1 (3.7%)	(13%)	2 (5.56%)	2 (5.9%)
Total	51	27	46	36	21

Table P-4 Dyad Gaidi / Huria's focus areas in the S-CMC chat sessions

Number and percentage of turns on each focus area					
Focus area	Interaction 1	Interaction 2	Interaction 3	Interaction 4	Interaction 5
Social greetings	8 (22.2%)	4 (15.4%)	3 (12%)	4 (18.2%)	3 (8.1%)
Task management	1 (2.8%)	4 (15.4%)	4 (16%)	1 (4.5%)	2 (5.4%)

Interpreting task prompt	0	0	0 (0%)	1 (4.5%)	0
Generating ideas	27 (75%)	18 (69.2%)	13 (52%)	13 (59.1%)	26 (70.3%)
Lexicon-related episodes	0	0	0	1 (4.5%)	2 (5.4%)
Grammar-related episodes	0	0	0	0	0
Spelling episodes	0	0	0	0	0 (0%)
Talking off-topic	0	0	1 (4%)	0	0
Taking leave	0	0	3(12%)	2 (9.1%)	4 (10.8%)
Total	36	26	25	22	37

Table P-5 Dyad Inuka/Jirani's focus areas in the S-CMC chat sessions

Number and percentage of turns on each focus area					
Focus area	Interaction 1	Interaction 2	Interaction 3	Interaction 4	Interaction 5
Social greetings	2 (10%)	2 (11.1%)	1 (5%)	3 (23.1%)	4 (22.2%)
Task management	1 (5%)	2 (11.1%)	1 (5%)	1 (7.9%)	1 (5.6%)
Interpreting task prompt	0	0 (0%)	0 (0%)	0 (0%)	0
Generating ideas	16 (80%)	14 (77.8%)	18 (90%)	8 (61.5%)	13 (72.3%)
Lexicon-related episodes	1 (5%)	0	0 (0%)	1 (7.69%)	1 (2.9%)
Grammar-related episodes	0 (0%)	0	0	0	0
Spelling episodes	0	0	0	0	0 (0%)
Talking off-topic	0 (0%)	0 (0%)	0 (0%)	0	0
Taking leave	0 (0%)	0 (0%)	(0%)	0 (0%)	0 (0%)
Total	20	18	20	13	18

APPENDIX Q. FOCUS AREAS IN THE FACE-TO-FACE INTERACTIVE SESSIONS

Table Q-I Dyad A/B's focus areas in the face-to-face interactive sessions

Number and percentage of turns on each focus area					
Focus area	Interaction 1	Interaction 2	Interaction 3	Interaction 4	Interaction 5
Social greetings	5 (23.9%)	4 (8.8%)	3 (4.2%)	4 (2.7%)	4 (1.8%)
Task management	2 (4.4%)	1 (2.2%)	1 (1.4%)	0	1 (0.9%)
Interpreting task prompt	0	0	0 (0%)	0	0
Generating ideas	33 (71.7%)	33 (73.3%)	66 (93%)	70 (94.6%)	102 (93.6%)
Lexicon-related episodes	6 (13%)	7 (15.6%)	1 (1.4%)	2 (2.7%)	2 (1.8%)
Grammar-related episodes	0	0	0	0	0
Pronunciation episodes	0	0	0	0	0
Talking off-topic	0	0	0	0	0
Taking leave	0	0	0	0	2 (1.8%)
Total	46	45	71	74	109

Table Q-2 Dyad Chapa/Dalili's focus areas in the face-to-face interactive sessions

Number and percentage of turns on each focus area					
Focus area	Interaction 1	Interaction 2	Interaction 3	Interaction 4	Interaction 5
Social greetings				2 (1.9%)	6 (6%)
Task management				1 (0.95%)	1 (1%)
Interpreting task prompt				0	0
Generating ideas				98 (93.3%)	81 (81%)
Lexicon-related episodes				3 (2.9%)	10 (10%)
Grammar-related episodes				0	0

Pronunciation episodes				0	0
Talking off-topic				0	0
Taking leave				1 (0.95%)	2 (2%)
Total				105	100

Table Q-3 Dyad Eleza/Furaha's focus areas in the face-to-face interactive sessions

Number and percentage of turns on each focus area					
Focus area	Interaction 1	Interaction 2	Interaction 3	Interaction 4	Interaction 5
Social greetings	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Task management	1 (0.6%)	2 (1.2%)	1 (1.1%)	2 (1.5%)	3 (1.4%)
Interpreting task prompt	0	0	0	0	1 (0.5)
Generating ideas	162 (99.4%)	163 (97.02%)	91 (95.08%)	131 (95.6%)	203 (96.7%)
Lexicon-related episodes	0%	3(1.8%)	3 (3.2%)	4 (2.9%)	2 (0.95%)
Grammar-related episodes	0 (0%)	0	0	0	0
Pronunciation episodes	0	0	0	0	0 (0%)
Talking off-topic	0 (0%)	0 (0%)	0 (0%)	0	0
Taking leave	0 (0%)	0 (0%)	0 (0%)	0	1 (0.5%)
Total	163	168	95	137	210

Table Q-4 Dyad Gaidi / Huria's focus areas in the face-to-face interactive sessions

Number and percentage of turns on each focus area					
Focus area	Interaction 1	Interaction 2	Interaction 3	Interaction 4	Interaction 5
Social greetings	2 (2.5%)	3 (1.73%)	2 (3.2%)	4 (2.3%)	2 (3.2%)
Task management	1 (1.2%)	3 (1.7%)	2 (3.2%)	5 (2.8%)	1 (1.6%)
Interpreting task prompt	0 (0%)	0 (0%)	0 (0%)	0 (0%)	(0%)

Generating ideas	75 (92.6%)	158 (91.3%)	56 (90.3%)	162 (91.5%)	54 (87.1%)
Lexicon-related episodes	3 (3.7%)	5 (2.9%)	2 (3.2%)	6 (3.4%)	2 (3.2%)
Grammar-related episodes	0	0	0	0	0
Pronunciation episodes	0	0	0	0	0 (0%)
Talking off-topic	0	4 (2.3%)	0	0	0
Taking leave	0	0	0(0%)	0 (0%)	3 (4.8%)
Total	81	173	62	177	62

Table Q-5 Dyad Inuka/Jirani's focus areas in the face-to-face interactive sessions

Number and percentage of turns on each focus area					
Focus area	Interaction 1	Interaction 2	Interaction 3	Interaction 4	Interaction 5
Social greetings	1 (0.8%)	2 (1.4%)	2 (1.9%)	0 (0%)	0 (0%)
Task management	0 (0%)	0 (0%)	1 (0.93%)	2 (2.3%)	2 (3.03%)
Interpreting task prompt	0	0 (0%)	0 (0%)	0 (0%)	0
Generating ideas	124 (98.4%)	142 (95.95%)	103 (95.4%)	82 (94.3%)	63 (95.5%)
Lexicon-related episodes	1 (0.8%)	4 (2.7%)	2 (1.9%)	2 (2.3%)	1 (1.5%)
Grammar-related episodes	0 (0%)	0 (0%)	0	1 (1.2%)	0
Pronunciation episodes	0	0	0	0	0 (0%)
Talking off-topic	0 (0%)	0 (0%)	0 (0%)	0	0
Taking leave	0 (0%)	0 (0%)	(0%)	0 (0%)	0 (0%)
Total	126	148	108	87	66

APPENDIX R. MEAN SCORES FOR THE FIVE WRITING SESSIONS THAT PARTICIPANTS HAD IMMEDIATELY AFTER THE FACE-TO-FACE CONVERSATIONS

Table 5.23 Mean scores for the five writing sessions that participants had immediately after the face-to-face conversations

	Writing session 1	Writing session 2	Writing session 3	Writing session 4	Writing session 5
Number of words	303.13	261.88	273.3	270.75	262.2
Spelling accuracy	98.25%	97.9%	97.7%	98.4%	97.9%
Lexical accuracy	97.13%	97.3%	96.6%	97%	97.1%
Lexical richness	52.8%	52.3%	52.6%	53%	52.8%
Syntactic accuracy	91.9%	92.4%	91.9%	91.9%	92.1%
Syntactic richness	46%	46.5%	45.4%	46.1%	45.2%
Content richness	73.6%	74.1%	73.2%	73.6%	73.3%
Organization	3.5	3.4	3.4	3.4	3.3
Holistic assessment	3.3	3.3	3.19	3.2	3.17

APPENDIX S. GROUP RESULTS COMPARING S-CMC CHAT AND FACE-TO-FACE CONVERSATIONS

S-1: Comparison between the length (in words) of the S-CMC chat and the face-to-face conversation sessions

Subject	S-CMC chat	Face-to-face	Signed rank
Abdi	100.2	524.6	-10
Bibi	133.6	348.6	-4
Chapa	106	281.5	-2
Dalili	151.33	319.5	-1
Eleza	196.6	474	-6
Furaha	185.4	416.4	-5
Gaidi	125	334.2	-3
Huria	150.4	493.8	-7
Inuka	134	553	-9
Jirani	132.2	481.8	-8
<p>W-value: 0 Mean Difference: -207.13 z-score: -2.80 σw: 9.81 Sample Size (N): 10</p> <p>The z-score is -2.80. The p-value is 0.01. The result is significant at $p \leq 0.05$. Or The W-value is 0. The critical value of W for N = 10 at $p \leq 0.05$ is 8. Therefore, the result is significant at $p \leq 0.05$</p>			

S-2: Comparison between number of turns of the S-CMC chat and the face-to-face conversation sessions

Subject	S-CMC chat	Face-to-face	Signed ranks
Abdi	8.8	56	-4.5
Bibi	8.6	56.6	-6
Chapa	13.67	52	-2
Dalili	15	51	-1
Eleza	18	79	-8
Furaha	17.4	77.2	-7
Gaidi	14	85.4	-9
Huria	13.8	86.2	-10
Inuka	8.8	56	-4.5
Jirani	8.4	54.8	-3
<p>W-value: 0 Mean Difference: -43.95</p>			

z-score: -2.80
 σw : 9.81
 Sample Size (N): 10

The z-score is -2.80. The p -value is 0.005. The result is significant at $p \leq 0.05$.
 Or
 The W-value is 0. The critical value of W for N = 10 at $p \leq 0.05$ is 8. Therefore, the result is significant at $p \leq 0.05$

S-3: Comparison between the turn length (in words) of the S-CMC chat and the face-to-face conversation sessions

Subject	S-CMC chat	Face-to-face	Signed ranks
Abdi	12.09	10.536	1
Bibi	15.72	6.618	10
Chapa	7.83	5.395	2
Dalili	10.86	6.255	3
Eleza	11.19	6.134	5
Furaha	11.48	5.7	8
Gaidi	9.44	3.93	7
Huria	11.05	5.73	6
Inuka	15.31	10.37	4
Jirani	16.1	9.5	9
W-value: 0 Mean Difference: 5.49 z-score: -2.80 σw : 9.81 Sample Size (N): 10 The z-score is -2.80. The p -value is 0.005. The result is significant at $p \leq 0.05$. Or The W-value is 0. The critical value of W for N = 10 at $p \leq 0.05$ is 8. Therefore, the result is significant at $p \leq 0.05$			

S-4: Comparison between the lexical score of the S-CMC chat and the face-to-face conversation sessions

Participant	S-CMC chat	Face-to-face	Signed ranks
Abdi	3.7	4.06	-4
Bibi	3.8	4.26	-6
Chapa	3.53	3.75	-2
Dalili	3.67	3.95	-3
Eleza	3.52	4.08	-8
Furaha	3.62	4.28	-9
Gaidi	3.74	4.3	-7
Huria	3.8	4.5	-10
Inuka	3.76	3.96	-1
Jirani	3.74	4.16	-5

W-value: 0
 Mean Difference: -0.57
 z-score: -2.80
 σw : 9.81
 Sample Size (N): 10

The z-score is -2.80. The p -value is 0.00512. The result is significant at $p \leq 0.05$.

Or

The W-value is 0. The critical value of W for N = 10 at $p \leq 0.05$ is 8. Therefore, the result is significant at $p \leq 0.05$

S-5: Comparison between the grammatical score of the S-CMC chat and the face-to-face conversation sessions

Participant	S-CMC chat	Face-to-face	Signed ranks
Abdi	3.56	3.62	-3.5
Bibi	3.72	3.82	-5
Chapa	3.47	3.5	-2
Dalili	3.72	3.3	8
Eleza	3.47	3.46	1
Furaha	3.72	3.66	3.5
Gaidi	3.24	3.92	-9
Huria	3.36	4.12	-10
Inuka	3.28	3.52	-6.5
Jirani	3.48	3.72	-6.5

<p>W-value: 12.5</p> <p>Mean Difference: -0.32 z-score: -1.53 σ_w: 9.81 Sample Size (N): 10</p> <p>The z-score is -1.53. The p-value is 0.13. The result is not significant at $p \leq 0.05$.</p> <p>Or</p> <p>The W-value is 12.5. The critical value of W for N = 10 at $p \leq 0.05$ is 8. Therefore, the result is not significant at $p \leq 0.05$</p>
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S-6: Comparison between the content score of the S-CMC chat and the face-to-face conversation sessions

Participant	S-CMC chat	Face-to-face	Signed ranks
Abdi	4.02	3.92	1
Bibi	4	4.12	-2.5
Chapa	4.3	3.6	9
Dalili	4.3	3.4	10
Eleza	4.1	3.84	5
Furaha	4.18	4.04	4
Gaidi	4.38	4.02	6
Huria	4.34	4.22	2.5
Inuka	4.06	3.56	8
Jirani	4.14	3.76	7

<p>W-value: 2.5 Mean Difference: 0.06 z-score: -2.55 σ_w: 9.81 Sample Size (N): 10</p> <p>The z-score is -2.55. The p-value is 0.01. The result is significant at $p \leq 0.05$.</p> <p>Or</p> <p>The W-value is 2.5. The critical value of W for N = 10 at $p \leq 0.05$ is 8. Therefore, the result is significant at $p \leq 0.05$</p>
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APPENDIX T. GROUP RESULTS COMPARING ESSAYS FROM THE S-CMC CHAT AND FACE-TO-FACE CONVERSATIONS

Group results comparing essays from the S-CMC chat and face-to-face conversations

T-1: Table 6.32 comparing the length of the essays written by all the participants after the two modes of interaction

Subject	SCMC	Face-to-face	S-CMC-face-face	Signed rank
Abdi	269.2	324	-54.8	-9
Bibi	280	315	-35	-6
Chapa	151.8	344.5	-192.7	-10
Dalili	188.7	234	-45.3	-8
Eleza	241.4	264.6	-23.2	-2
Furaha	249.2	237	12.2	1
Gaidi	242.6	276	-33.4	-5
Huria	214.2	247.2	-33	-4
Inuka	253.6	297.6	-44	-7
Jirani	244	215.4	28.6	3

W-value: 4
Mean Difference: -37.53
Sample Size (N)=10
z-score = -2.40
 $\sigma_w = 9.81$
 $\alpha = 0.05$

The W-value is 4. The critical value of W for N = 10 at $p \leq 0.05$ is 8. Therefore the result is significant
Or the z- score is -2.40. The p-value is 0.02. The result is significant at $p \leq 0.05$.

T-2 Table 6.32 comparing the spelling accuracy of the essays written by all the participants after the two modes of interaction

Subject	S-CMC chat	Face-to-face	Signed rank
Abdi	97.2	98.2	-5
Bibi	97.25	98	-2
Chapa	96.6	97.5	-3.5
Dalili	95.5	95.5	n/a
Eleza	96.6	98.6	-8
Furaha	96.6	98.2	-6
Gaidi	96.6	98.4	-7
Huria	97.1	98	-3.5

Inuka	95.8	98.2	-9
Jirani	96.9	97.6	-1
<p>W-value: 0 Mean difference: - 1.54 Sample Size (N): 9 z-score = -2.67 $\sigma_w = 9.81$</p> <p>The z-score is -2.67. However, the size of N (9) is not large enough for the distribution of the Wilcoxon W statistic to form a normal distribution. Therefore, it is not possible to calculate an accurate <i>p</i>-value.</p> <p>or</p> <p>The W-value is 0. The critical value of W for N=9 at $p \leq 0.05$ is 5. Therefore, the result is significant at $p \leq 0.05$</p>			

T-3: Table 6.33 comparing the lexical accuracy of the essays written by all the participants after the two modes of interaction

Subject	SCMC chat	Face-to-face	Signed rank
Abdi	98	97.6	4
Bibi	97.25	97.4	-3
Chapa	97.6	97.5	1.5
Dalili	98	95.5	9
Eleza	98.3	97.2	8
Furaha	97.7	97.8	-1.5
Gaidi	97.8	97	7
Huria	97.4	96.8	6
Inuka	97.9	97.4	5
Jirani	98	95.2	
<p>W-value: 4.5 Mean Difference: 0.8 Sample Size (N): 9 z-score = -2.13 $\sigma_w = 9.81$ $\alpha = 0.05$</p> <p>The W-value is 4.5. The critical value of W for N = 9 at $p \leq 0.05$ is 5. Therefore, the result is significant at $p \leq 0.05$.</p> <p>Or</p> <p>The z-score is -2.13. However, the size of N (9) is not large enough for the distribution of Wilcoxon W statistic to form a normal distribution. Therefore, it is not possible to calculate an accurate <i>p</i>-value.</p>			

T-4: Table 6.33 comparing the Lexical richness of the essays written by all the participants after the two modes of interaction

Subject	SCMC chat	Face-to-face	Signed rank
Abdi	57.5	55	1
Bibi	56.2	53	2.5
Chapa	57.1	53.5	4
Dalili	56.5	51	9
Eleza	56.6	53.4	2.5
Furaha	57	51.6	8
Gaidi	56.3	51.8	6
Huria	57.8	54	5
Inuka	57.1	52.4	7
Jirani	57.1	50.6	10

W-value = 0
Mean Difference: 4.17
Sample Size (N)=10
z-score = -2.80
 $\sigma_w = 9.81$

The z-score is -2.80. The *p*-value is 0.005. The result is significant at $p \leq 0.05$.
Or
The W-value is 0. The critical value of W for N = 10 at $p \leq 0.05$ is 8.
Therefore the result is significant at $p \leq 0.05$.

T-5: Table 6.33 comparing the syntactic accuracy of the essays written by all the participants after the two modes of interaction

Subject	SCMC chat	Face-to-face	Signed rank
Abdi	91.9	93.6	-6
Bibi	91.5	92.4	-4
Chapa	91.75	92	-2
Dalili	91.83	89.5	9
Eleza	91.8	92	-1
Furaha	91.9	90.2	7
Gaidi	91.3	90.6	3
Huria	91.5	95	-10
Inuka	92.1	93.2	-5
Jirani	92	90.2	8

W-value: 27
Mean Difference: -0.44
Sample Size (N): 10
z-score: -0.05
 $\sigma_w : 9.81$

The z-score is -0.05. The p -value is 0.96. The result is not significant at $p \leq 0.05$.

Or

The W-value is 27. The critical value of W for $N = 10$ at $p \leq 0.05$ is 8. Therefore, the result is not significant at $p \leq 0.05$.

T-6: Table 6.33 comparing the syntactic richness of the essays written by all the participants after the two modes of interaction

Subject	S-CMC chat	Face-to-face	Signed rank
Abdi	52.3	52.4	-1
Bibi	52.1	44.6	5
Chapa	51.25	47.5	2
Dalili	53.5	41.5	10
Eleza	52.1	46.4	4
Furaha	52.9	41.6	8.5
Gaidi	52.2	41.8	7
Huria	53.4	57.2	-3
Inuka	51.9	42.4	6
Jirani	52.5	41.2	8.5

W-value: 4
Mean Difference: 9.59
Sample Size (N): 10
z-score: -2.40
 σ_w : 9.81

The z-score is -2.40. The p -value is 0.02. The result is significant at $p \leq 0.05$.

Or

The W-value is 4. The critical value of W for $N = 10$ at $p \leq 0.05$ is 8. Therefore, the result is significant at $p \leq 0.05$.

T-7: Table 6.33 comparing the content richness of the essays written by all the participants after the two modes of interaction

Subject	S-CMC chat	Face-to-face	Signed rank
Abdi	71.6	75.8	-9
Bibi	69.9	72.8	-7
Chapa	71.8	73.5	-6
Dalili	70.7	71	-1
Eleza	70.9	74.6	-8
Furaha	70.9	71.6	-2
Gaidi	70.8	72.2	-5
Huria	75.3	79.6	-10
Inuka	71.9	72.8	-3
Jirani	71.1	70	4

<p>W-value: 4 Mean Difference -2.21 Sample Size (N)=10 z-score = -2.40 $\sigma_w = 9.81$</p> <p>The z-score is -2.40. The p-value is 0.02. The result is significant at $p \leq 0.05$.</p> <p>Or</p> <p>The W-value is 4. The critical value of W for N = 10 at $p \leq 0.05$ is 8. Therefore, the result is significant at $p \leq 0.05$.</p>

T-8: Table 6.33 comparing the organization of the essays written by all the participants after the two modes of interaction

Subject	S-CMC chat	Face-to-face	Signed rank
Abdi	3.79	4.08	-2
Bibi	3.7	3.32	4
Chapa	3.5	3.75	-1
Dalili	3.81	2.92	10
Eleza	3.85	3.48	3
Furaha	3.6	3	8
Gaidi	3.75	3.18	7
Huria	3.64	4.08	-5
Inuka	3.79	3.28	6
Jirani	3.61	2.88	9

<p>W-value = 8 Mean Difference 0.3 Sample Size (N)=10 z-score = -1.99 $\sigma_w = 9.81$</p> <p>The z-score is -1.99. The p-value is 0.05. The result is significant at $p \leq 0.05$.</p> <p>Or</p> <p>The W-value is 8. The critical value of W for N = 10 at $p \leq 0.05$ is 8. Therefore, the result is significant at $p \leq 0.05$.</p>
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T-9: Table 6.33 comparing the holistic assessment of the essays written by all the participants after the two modes of interaction

Subject	S-CMC chat	Face-to-face	Signed rank
Abdi	3.5	3.68	-2
Bibi	3.5	3.18	5
Chapa	3.5	3.15	6
Dalili	3.53	2.85	10
Eleza	3.65	3.46	3

Furaha	3.53	2.92	8
Gaidi	3.51	3	7
Huria	3.54	3.6	-1
Inuka	3.62	3.32	4
Jirani	3.47	2.86	9

W-value = 3
Mean Difference: 0.35
Sample Size (N)=10
z-score = -2.50
 $\sigma_w = 9.81$

The z-score is -2.50. The p -value is 0.01. The result is significant at $p \leq 0.05$.

Or

The W-value is 3. The critical value of W for N = 10 at $p \leq 0.05$ is 8. Therefore, the result is significant at $p \leq 0.05$.

REFERENCES

- Abrams, Z. I. (2003). The effect of synchronous and asynchronous CMC on oral performance in German. *Modern Language Journal*, 87, 157–167.
- Al-Ahmad, S. (2003). The impact of collaborative learning on L1 and L2 college students' apprehension about and attitudes toward writing. Unpublished Ph.D. dissertation, Indiana University of Pennsylvania.
- Agresti, A. & Finlay, B. (2008). *Statistical Methods for the Social Sciences* (4th Edition) (pp. 255-354). New Jersey: Pearson Prentice Hall.
- American Councils (2012). The ACTFL Proficiency Guidelines–Writing (Revised 2012). Retrieved August 31, 2013, from <http://actflproficiencyguidelines2012.org>
- Bachman, L. F., & Cohen, A. D. (1998). Language testing–SLA interfaces: An update. In L. F. Bachman & A. D. Cohen (Eds.), *Interfaces between second language acquisition and language testing research* (pp. 1–31). New York: Cambridge University Press.
- Barkaoui, K. (2008). Effects of scoring method and rater experience on ESL essay rating processes and outcomes. Unpublished Ph.D. dissertation, University of Toronto.
- Batstone, R. (1996). Key concepts in ELT: Noticing. *ELT Journal*, 50, 273.
- Bhagwat, S. & Goutam, A. (2013) Development of Social Networking Sites and Their Role in Business with Special Reference to Facebook. *IOSR Journal of Business and Management (IOSR-JBM)*, Volume 6, Issue 5, 15-28.
- Bearden, R. (2001). An interactionist study of small-group oral discussion vs. computer assisted class discussion (CADC) between native speakers and nonnative learners for Spanish. Paper presented at the American Association of Applied Linguistics, Saint Louis, MO.
- Beauvois, M. H. (1997a). Computer-mediated communication (CMC): Technology for improving speaking and writing. In M. D. Bush & R. M. Terry (Eds.), *Technology- enhanced language learning* (pp. 165–184). Lincolnwood, IL: National Textbook Company.
- Beauvois, M. H. (1997b). Write to speak: The effects of electronic communication on the oral achievement of fourth semester French students. In J. A. Muyskens (Ed.), *New ways of learning and teaching: Focus on technology and foreign language education* (pp. 93–115). Boston: Heinle & Heinle.
- Beauvois, M. H. (1998). Conversations in slow motion: Computer-mediated communication in the foreign language classroom. *Canadian Modern Language Review*, 54, 198–217.

Beauvois, M. H., & Eledge, J. (1996). Personality types and megabytes: Student attitudes toward computer mediated communication (CMC) in the language classroom. *CALICO Journal*, 13, 27–45.

Berg, E. C. (1999). The effects of trained peer response on ESL students' revision types and writing quality. *Journal of Second Language Writing*, 8, 215–241.

Blake, R. (2000). Computer mediated communication: A window on L2 Spanish interlanguage. *Language Learning & Technology*, 4, 120–136.

Blake, R. J., & Zyzik, E. C. (2003). Who's helping whom?: Learner/heritage-speakers' networked discussions in Spanish. *Applied Linguistics*, 24, 519–544.

Cameron, C. A., Lee, K., Webster, S., Munro, K., Hunt, A. K., & Linton, M. J. (1995). Text cohesion in children's narrative writing. *Applied Psycholinguistics*, 16, 257–269.

Carstens V. (1993) On Nominal Morphology and DP Structure. In S.A. Mchombo (Ed.), *Theoretical Aspects of Bantu Grammar 1* (pp. 151-180). CLSI Publications, Stanford, California.

Chalhoub-Deville, M. (1997). Theoretical models, assessment frameworks and test construction. *Language Testing*, 14, 3–22.

Chiang, S. Y. (1999). Assessing grammatical and textual features in L2 writing samples: The case of French as a foreign language. *Modern Language Journal*, 83, 219–232.

Chun, D. M. (1994). Using computer networking to facilitate the acquisition of interactive competence. *System*, 22, 17–31.

Ciekanski, M., & Chanier T. (2008). Developing online multimodal verbal communication to enhance the writing process in an audio-graphic conferencing environment. *ReCALL*, 20, 162–182.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd edition). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cohen, A. D., & Brooks-Carson, A. (2001). Research on direct versus translated writing: Students' strategies and their results. *Modern Language Journal*, 85, 169–188.

Collot, M., & Belmore, N. (1996). Electronic language: A new variety of English. In S. C. Herring (Ed.), *Computer-mediated communication: Linguistic, social and crosscultural perspectives* (pp. 13–28). Philadelphia: John Benjamins.

Darhower, M. (2002). Interactional features of synchronous computer-mediated communication in the intermediate L2 class: A sociocultural case study. *CALICO Journal*, 19, 249–277.

- Deen, K. U. (2005). *The Acquisition of Swahili* (pp. 20-27). Philadelphia, PA: John Benjamins
- Donato, R. (1994). Collective scaffolding in second language learning. In J. P. Lantolf & G. Appel (Eds.), *Vygotskian approaches to second language research* (pp. 33–56). Norwood, NJ: Ablex.
- Dubois, J. (1991). Transcription design principles for spoken discourse research. *Pragmatics* 1:71-106
- Dubois, J., et al. (1992). Discourse transcription. *Santa Barbara Papers in Linguistics* 4: 1-225
- Ellis, R. (2000). Task-based research and language pedagogy. *Language Teaching Research*, 4, 193–220.
- Fernández-García, M., & Martínez Arbeláiz, A. (2002). Negotiation of meaning in nonnative speaker-nonnative speaker synchronous discussions. *CALICO Journal*, 19, 279–294.
- Fernández-García, M., & Martínez Arbeláiz, A. (2003). Learners' interactions: A comparison of oral and computer-assisted written conversations. *ReCALL*, 15, 113– 136.
- Ferris, D. R., & Hedgcock, J. S. (1998). *Teaching ESL composition: Purpose, process, and practice*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Fidalgo-Eick, M. (2001). Synchronous on-line negotiation of meaning by intermediate learners of Spanish. Unpublished Ph.D. dissertation, University of Iowa.
- Foster, P., & Ohta, A. S. (2005). Negotiation for meaning and peer assistance in second language classrooms. *Applied linguistics*, 26, 402–430.
- Foster, P., & Skehan, P. (1996). The influence of planning and task type on second language performance. *Studies in Second Language Acquisition*, 18, 299–323.
- Freeman, D. (1992). Collaboration: Constructing shared understandings in a second language classroom. In D. Nunan (Ed.), *Collaborative language learning and teaching* (pp. 56–80). Cambridge, UK: Cambridge University Press.
- Gass, S. M. (1997). *Input, interaction, and the second language learner*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Gebril, A. M. (2006). Independent and integrated academic writing tasks: A study in generalizability and text method. Unpublished Ph.D. dissertation, University of Iowa.
- Guiles, R. (1943) Effects of Formal Spelling on Spelling accuracy' *JSTOR: The Journal of Educational Research* Vol 37, No. 4 (Dec, 1943), pp. 284-289
- Halliday, M. A. K. (1989). *Spoken and written language*. Oxford: Oxford University Press.

- Hamdaoui, R. E. (2006). Writing in cognate vs. non-cognate languages: A comparative study of two groups of American students writing in Arabic and French as L2. Unpublished Ph.D. dissertation, Purdue University.
- Hamp-Lyons, L. (1991). Scoring procedures for ESL contexts. In L. Hamp-Lyons (Ed.), *Assessing second language writing in academic contexts* (pp. 241–276). Norwood, NJ: Ablex.
- Hamp-Lyons, L. (2003) Writing teachers as assessors of writing. In B. Kroll (Ed.), *Exploring the dynamics of second language writing* (pp. 162–189). New York: Cambridge University Press.
- Hanby, J. & Bygott, D. (1984) “Kangas – 101 Uses”, Kibuyu Partners, kibuyu@yahoo.com. Reproduced with author’s permission by Hassan O. Ali and Kassim O. http://www.gicom.com/hassan/kanga_history.html
- Harklau, L. (2002). The role of writing in classroom second language acquisition. *Journal of Second Language Writing*, 11, 329–350.
- Hauer, M. (2002). Swahili Language Courses UW-Madison, Department of African Languages and Literature. Retrieved August 31, 2013, from <http://media.humnet.ucla.edu/courses/aflang2c/>
- Hawkey, R., & Barker, F. (2004). Developing a common scale for the assessment of writing. *Assessing Writing*, 9, 122–159.
- Haynes, C. (1998). Help! There’s a MOO in this class! In C. Haynes & J. R. Holmervik (Eds.), *High wired: On the design, use, and theory of educational MOOs* (pp.161– 176). Ann Arbor, MI: University of Michigan Press.
- Hinnebusch, T. J. (1996). What Kind of Language is Swahili? *AAP* 47, 73-95
- Hinnebusch, T. J. & Mirza, M.S. (2000) *Swahili: A Foundation for Speaking, Reading, and Writing* - Second Edition. University Press of America, USA
- Honeycutt, L. (2001). Comparing e-mail and synchronous conferencing in online peer response. *Written Communication*, 18, 26–60.
- Housen, A., & Kuiken, F. (2009). Complexity, accuracy, and fluency in second language acquisition. *Applied Linguistics*, 30, 461–473.
- Hyland, K. (2002). *Teaching and researching writing*. Harlow, UK: Longman/Pearson Education.
- IGCSE, London Examinations IGCSE in English as a Second Language (ESL) (4357). Publication Code: UG014342 June 2005, Issue 1.
- Iwasaki, J., & Oliver, R. (2003). Chat-line interaction and negative feedback. *Australian Review of Applied Linguistics*, 17, 60–73.

- Jones, R. H., Garralda, A., Li, D. C. S., & Lock, G. (2006). Interactional dynamics in online and face-to-face peer-tutoring sessions for second language writers. *Journal of Second Language Writing*, 15, 1–23.
- Jurkowitz, L. A. (2008). Interaction, meaning-making, and accuracy in synchronous CMC discussion: The experiences of a university-level intermediate French class. Unpublished Ph.D. dissertation, The University of Arizona.
- Kelm, O. R. (1992). The use of synchronous computer networks in second language instruction: A preliminary report. *Foreign Language Annals*, 25, 441–454.
- Kern, R. G. (1995). Restructuring classroom interaction with network computers: Effects on quantity and characteristics of language production. *Modern Language Journal*, 79, 457–476.
- Krashen, S. (1982). *Principles and practice in second language acquisition*. New York: Prentice Hall.
- Krashen, S. D. (1985). *The input hypothesis: Issues and implications*. New York: Longman.
- Kirby, D. & Kantor, K. (1983) Towards a theory of developmental rhetoric. In Freedman, A. et al (eds.) 1983, *Learning to Write: First Language/Second Language*, Selected papers from the 1979 CCTE Conference, Ottawa, Canada, Longman
- Kuiken, F., & Vedder, I. (2008). Cognitive task complexity and written output in Italian and French as a foreign language. *Journal of Second Language Writing*, 17, 48–60.
- Kyeu, D. (2011). *Swahili Noun Classes: Your Friendly Workbook and Guide*. (pp. 1-3) Outskirts Press.
- Kyeu, D. (2012). *Beginning Swahili Workbook and Guide: Homework exercises, Quizzes, Final Exam and Noun classes*. (pp. 85-86) Outskirts Press.
- Lantolf, J. (2000). Second language learning as a mediated process. *Language Teaching*, 33, 79-96.
- Lee, L. (2001). Online interaction: Negotiation of meaning and strategies used among learners of Spanish. *ReCALL*, 13, 232–244.
- Lee, L. (2002). Enhancing learners' communication skills through synchronous electronic interaction and task-based instruction. *Foreign Language Annals*, 35, 16–24.
- Liu, J., & Hansen, J. G. (2002). *Peer response in second language writing classrooms*. Ann Arbor, MI: The University of Michigan Press.
- Long, M. H. (1983). Native speaker/non-native speaker conversation and the negotiation of comprehensible input. *Applied Linguistics*, 4, 126–141. 240

Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of second language acquisition* (pp. 413–468). San Diego, CA: Academic Press.

Long, M. H., & Robinson, P. (1998). Focus on form: Theory, research and practice. In C. Doughty & J. Williams (Eds.), *Focus on form in classroom second language acquisition* (pp.15–41). New York: Cambridge University Press.

Lotherington, H., & Xu, Y. J. (2004). How to chat in English and Chinese: Emerging digital language conventions. *ReCALL*, 16, 308–329.

Lundstrom, K., & Baker, W. (2009). To give is better than to receive: The benefits of peer review to the reviewer's own writing. *Journal of Second Language Writing*, 18, 30–43.

Maho, J. F. Homepage of Jouni Filip Maho <http://goto.glocalnet.net/maho/bantunouns.html>

Mali, Z. O. (2007). Exploring communication strategy use by learners of isiZulu in synchronous computer-mediated communication (S-CMC). Unpublished Ph.D. dissertation, University of Iowa.

Matsuda, P. K. (2001). Reexamining audiolingualism: On the genesis of reading and writing in L2 studies. In D. D. Belcher & A. Hirvela (Eds.), *Linking literacies: Perspectives on L2 reading-writing connections* (pp. 84–108). Ann Arbor, MI: University of Michigan Press.

Matsuda, P. K., Canagarajah, A. S., Harklau, L., Hyland, K., & Warschauer, M. (2003). Changing currents in second language writing research: A colloquium. *Journal of Second Language Writing*, 12, 151–179.

Msanjila, Y.P. Problems of Writing in Kiswahili: A Case Study of Kigurunyembe and Morogoro Secondary Schools in Tanzania. *Nordic Journal of African Studies* 14(1): 15–25 (2005)

Mendonca, C. O., & Johnson, K. E. (1994). Peer review negotiations: Revision activities in ESL writing instruction. *TESOL Quarterly*, 28, 745–769.

Miao, Y., Badger, R., & Zhen, Y. (2006). A comparative study of peer and teacher feedback in a Chinese EFL writing class. *Journal of Second Language Writing*, 15, 179–200.

Miles, M. B., & Huberman, A. M. (1994). *An expanded sourcebook: Qualitative data analysis*. London: Sage Publications.

Mwansoko, H.J.M Swahili in Academic Writing. *Nordic Journal of African Studies* 12(3): 265–276 (2003)

Ortega, L. (2003). Syntactic complexity measures and their relationship to L2 proficiency: A research synthesis of college-level L2 writing. *Applied Linguistics*, 24, 492–518.

- Oskoz, A. R. (2003). Jigsaw and free discussion in synchronous computer mediated communication (S-CMC). Unpublished Ph.D. dissertation, University of Iowa.
- Paulus, T. M. (1999). The effect of peer and teacher feedback on student writing. *Journal of Second Language Writing*, 8, 265–289.
- Payne, J. S., & Ross, B. M. (2005). Synchronous CMC, working memory, and L2 oral proficiency development. *Language Learning & Technology*, 9, 35–54.
- Pellettieri, J. (2000). Negotiation in cyberspace: The role of chatting in the development of grammatical competence. In M. Warschauer & R. Kern (Eds.), *Network-based language teaching: Concepts and practice* (pp. 59–86). New York: Cambridge University Press.
- Pica, T., Kanagy, R., & Falodun, J. (1993). Choosing and using communication tasks for second language research and instruction. In G. Crookes & S. Gass (Eds.), *Tasks and language learning: Integrating theory and practice* (pp. 9–34). England: Multilingual Matters.
- Polio, C. G. (1997). Measures of linguistic accuracy in second language writing research. *Language Learning*, 47, 101–143.
- Pollitt, A., & Hutchinson, C. (1987). Calibrated graded assessments: Rasch partial credit analysis of performance in writing. *Language Testing*, 4, 72–92.
- Qi, D. S., & Lapkin, S. (2001). Exploring the role of noticing in a three-stage second language writing task. *Journal of Second Language Writing*, 10, 277–303.
- Raimes, A. (1992). *Exploring through writing: A process approach to ESL composition*. New York: St. Martins Press.
- Reichelt, M. (1999). Toward a more comprehensive view of L2 writing: Foreign language writing in the U.S. *Journal of Second Language Writing*, 8, 181–204.
- Roebuck, R. (2000). Subjects speak out: How learners position themselves in a psycholinguistic task. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 79–96). Oxford: Oxford University Press.
- Schmidt, R. W. (1990). The role of consciousness in second language learning. *Applied Linguistics*, 11, 129–158.
- Selfe, C. L. (1992). Computer-based conversations and the changing nature of collaboration. In J. Forman (Ed.), *New visions of collaborative writing* (pp. 147–169). Portsmouth, NH: Boynton/Cook.
- Shin, Y. (2008). The effects of planning on L2 writing: A study of Korean learners of English as a foreign language. Unpublished Ph.D. dissertation, University of Iowa.

Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: uses in assessing rater reliability. *Psychological Bulletin*, 86, 420–428.

Sirc, G (1995). The twin worlds of electronic conferencing. *Computers and Composition*, 12, 265–277.

Smith, B. (2003a). Computer-mediated negotiated interaction: An expanded model. *Modern Language Journal*, 87, 38–57.

Smith, B. (2003b). The use of communication strategies in computer-mediated communication. *System*, 31, 29–53.

Smith, B. (2004). Computer-mediated negotiated interaction and lexical acquisition. *Studies in Second Language Acquisition*, 26, 365–398.

Smith, B. (2005). The relationship between negotiated interaction, learner uptake, and lexical acquisition in task-based computer-mediated communication. *TESOL Quarterly*, 39, 33–58.

Social Science Statistics ‘The Wilcoxon signed-rank test’
<http://www.socscistatistics.com/tests/signedranks/>

Song, B., & Caruso, I. (1996). Do English and ESL faculty differ in evaluating the essays of native English-speaking and ESL students? *Journal of Second Language Writing*, 5, 163–182.

Sotillo, S. M. (2000). Discourse functions and syntactic complexity in synchronous and asynchronous communication. *Language Learning & Technology*, 4, 82–119.

Storch, N. (2001). How collaborative is pair work? ESL tertiary students composing in pairs. *Language Teaching Research*, 5, 29–53.

Storch, N. (2002). Patterns of interaction in ESL pair work. *Language Learning*, 52, 119–158.

Storch, N. (2005). Collaborative writing: Product, process, and students’ reflections. *Journal of Second Language Writing*, 14, 153–173.

Susser, B. (1994). Process approaches in ESL/EFL writing instruction. *Journal of Second Language Writing*, 3, 31–47.

Thompson, K. & Schleicher, A. (2001) *Swahili learners’ reference grammar*. Global Publishing Company

Tochon, F. (2009). ‘Deep Approach to Turkish Teaching and Learning’
<http://deepapproach.wceruw.org/theory.html>

Tochon, F. (2010). Deep Education, *Journal for Educators, Teachers and Trainers JETT*, Vol. 1, pp. 1-12

Tudini, V. (2002). The role of on-line chatting in the development of competence in oral interaction. In C. Kennedy (Ed.), *Proceedings of innovations in Italian teaching workshop* (pp. 40–57). Brisbane: Griffith University.

Tudini, V. (2003). Using native speakers in chat. *Language Learning & Technology*, 7, 141–159.

Turner, C. E., & Upshur, J. A. (2002). Rating scales derived from student samples: Effects of the scale maker and the student sample on scale content and student scores. *TESOL Quarterly*, 36, 49–70.

VanPatten, B. (2004). Input processing in SLA. In B. VanPatten (Ed.), *Processing instruction: Theory, research, and commentary* (pp. 5–31). Mahwah, NJ: Lawrence Erlbaum Associates.

Villamil, O. S., & de Guerrero, M. C. M. (1998). Assessing the impact of peer revision on L2 writing. *Applied Linguistics*, 19, 491–514.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Vygotsky, L. S. (1986). *Thought and language*. Cambridge, MA: MIT Press.

Warschauer, M. (1996). Comparing face-to-face and electronic discussion in the second language classroom. *CALICO Journal*, 13, 7–26.

Warschauer, M. (1997). Computer-mediated collaborative learning: Theory and practice. *Modern Language Journal*, 81, 470–481.

Warschauer, M. (1999). *Electronic literacies: Language, culture, and power in online education*. Mahwah, NJ: Lawrence Erlbaum Associates.

Warschauer, M., & Kern, R. (Eds.). (2000). *Network-based language teaching: Concepts and practice*. New York: Cambridge University Press.

Way, P. D., Joiner, E. G., & Seaman, M. A. (2000). Writing in the secondary foreign language classroom: The effects of prompts and tasks on novice learners of French. *Modern Language Journal*, 84, 171–184.

Weigle, S. C. (2002) *Assessing Writing*. New York: Cambridge University Press.

Weissberg, R. (2006). *Connecting speaking & writing in second language writing instruction*. Ann Arbor, MI: The University of Michigan Press.

Wikipedia ‘Interlanguage’ <http://en.wikipedia.org/wiki/Interlanguage>

Williams, J. (1999). Learner-generated attention to form. *Language Learning*, 49, 583– 625.

Williams, J. (2001). The effectiveness of spontaneous attention to form. *System*, 29, 325– 340.

Yates, S. J. (1996). Oral and written linguistic aspects of computer conferencing: A corpus-based study. In S. C. Herring (Ed.), *Computer-mediated communication: Linguistic, social and cross-cultural perspectives* (pp. 29–46). Philadelphia: John Benjamins.

Zhu, W. (2001). Interaction and feedback in mixed peer response groups. *Journal of Second Language Writing*, 10, 251–276.