CHAPTER II

LITERATURE REVIEW

This chapter review the theoretical framework related to this study which elaborated in three main subtitles followed by their sub-subtitles. The first subtitle describes about Computer – Mediated Communication (CMC), Collaborative Learning, Writing, CMC in Collaborative Learning, Theory of User Acceptance and Use of Technology, Related Studies, and Conceptual Framework.

2.1 Computer Mediated Communication (CMC)

CMC has utilized information design and delivery, and human-human and human-machine interactions with structural, cognitive and sociocognitive implications. It has been researched from various disciplinary and methodological perspectives. According to Herring (2001) and Warschauer (1999), CMC is well-known as a transmission and reception of messages using computers as input, storage, output, and routing devices. Thus, CMC is defined as communication taking place between human beings via the instrumentality of computers. Meanwhile, Luppicini (2007) defines CMC as communications mediated by interconnected computers between individuals or groups separated in space and/or time.

However, there is not fixed definition of CMC, as the fast-changing CMC technologies themselves. According to Murray (2000) and Paramskas (1999), a human-oriented description of CMC can be perceived as any form of organized computer-supported interaction between people, or as an environment in which users interact with other users over the network. In

other words, CMC can be defined as a generic term that embodies all forms of communication between individuals and among groups via networked computers. Refer to language learning, according to Kern & Warschauer (2000) CMC allows language learners with network access to communicate with other learners or speakers of the target language.

In general, CMC can be viewed both as mediational tools and as a communication process. CMC as a tool when it is examined from technological aspects that provide the medium for communication. Meanwhile CMC can also be perceived as a communication process, which includes the message, the sender and the receiver. Thus, It is human factors with their sociocultural and historical background that play significant roles during the interaction process.

2.1.1 Modes of Computer Mediated-Communication (CMC)

CMC is conventionally divided into two basic modes, synchronous (SCMC) and asynchronous (ACMC) communication capacity, both of which share high and multiway interactivity (Levy & Stockwell, 2006; Luppicini, 2007; Pfaffman, 2008).

2.1.1.1 Synchronous CMC

SCMC discussion involves users exchanging opinions in real time format via chat rooms, instant messenger, or video conferencing. Participants in SCMC environments poste typed messages which appear on the computer screen, and they can scroll back and forth to review previously sent.

a) Facebook Messanger

Facebook Messenger, which sometimes known as Messenger, is a messaging application and platform. It was originally developed as Facebook Chat in 2008, the company revamped its messaging service in 2010, and subsequently released standalone iOS and Android apps in August 2011. to use the web interface or download one of the standalone apps.

Users of Messenger can send messages and exchange photos, videos, stickers, audio, and files, as well as react to other users' messages and interact with bots. The service also supports voice and video calling. The standalone apps support using multiple accounts, conversations with optional end-to-end encryption, and playing games.

b) Skype

Skype is a telecommunications application software product that specializes in providing video chat and voice calls between computers, tablets, mobile devices, the Xbox One console, and smartwatches via the Internet and to regular telephones. Skype additionally provides instant messaging services. Users may transmit both text and video messages, and may exchange digital documents such as images, text, and video. Skype allows video conference calls.

Skype originally featured a hybrid peer-to-peer and client–server system. Skype has been powered entirely by Microsoft-operated supernodes since May 2012. The 2013 mass surveillance disclosures

revealed that Microsoft had granted intelligence agencies unfettered access to supernodes and Skype communication content.

c) Google Hangout

Google Hangout is an instant messaging service that provides both text and voice communication. The instant messaging service is colloquially known as "gtalk" to its users. Google Talk was integrated into Gmail. Users can send instant messages to other Gmail users. As it works within a browser, the Google Talk client does not need to be downloaded to send instant messages to Gmail users. Conversation logs are automatically saved to a *Chats* area in the user's Gmail account. This allows users to search their chat logs and have them centrally stored in their Gmail accounts.

2.1.1.2 Asynchronous CMC

On the other hand, ACMC, such as WWW, email, web blog, newsgroup and posting in bulletin board system, interaction does not need to be simultaneous. The ACMC mode allows students more time to read, understand, reflect and respond to the posted written messages. Learners also have a chance to monitor and edit their own or other learners' writing. ACMC has been widely used in the collaborative writing and brainstorming, fostering critical thinking habits of the participants (Lee, 2004)

a) Wordpress

WordPress is a free and open-source content management system (CMS) based on PHP and MySQL. Features include a plugin architecture and a template system. It is most associated with blogging, but

supports other types of web content including more traditional mailing lists and forums, media galleries, and online stores. WordPress is the most popular website management system in use. WordPress has also been used for other application domains such as pervasive display systems (PDS).

WordPress (wordpress.com) is an all-purpose platform with multiple free design templates (“themes”) and high capacity for text, images, and video. Faculty and students appreciate the extensive how-to support features and video tutorials available on the WordPress site. Both Blogger and WordPress allow for text, images and video; for instructors, a better distinction might be that WordPress allows for sorting posts by author, which Blogger does not.

b) Edmodo

Edmodo is an application that can be used on both mobile devices and in the web environment to create an online community of practice. Edmodo is a free social learning platform that allows students to access the course content uploaded by their teachers. The platform allows teachers and students to communicate with each other via messages, thus providing learners with the chance to communicate and collaborate in a virtual classroom environment (Balasubramanian, Jaykumar & Fukey, 2014; Ekmekçi, 2016; Mokhtar, 2016). The difference between Edmodo and other social network sites is that Edmodo is a social learning platform designed for collaboration, communication, the sharing of knowledge, homework and discussion between students, teachers and parents (Balasubramanian,

Jaykumar & Fukey, 2014). In Edmodo, every member has a profile page that is composed of groups, communities and their latest posts. Members can upload a profile image and share links and videos (via YouTube) on their page. They can access libraries, teaching/learning materials and their pages everywhere (when at home, school and travelling) through Edmodo (Trust, 2012).

c) Pbworks

PBworks (formerly PBwiki) is an online team collaboration website for businesses and education. It operates on a freemium basis, with basic features being offered for free and more advanced features for a fee. For education purpose, PBworks provides a safe and secure online environment for students, faculty and staff. It is made up of two parts: a wiki and file storage system. Although its use as Learning Management System (LMS) is not fully filled, it does provide a wiki tools that is easy to use, which suits to its slogan “making a wiki is as easy as making a peanut butter sandwich”, and is well suited as a way to let students share resources with each other online.

2.1.2 CMC in Education

2.1.2.1 CMC in Language Learning

The theoretical basis for the use of synchronous and asynchronous communication technologies in computer-mediated foreign language education is found in the interactionist theory among second language acquisition (SLA) theories and in communicative approach to foreign language teaching. Communicative approach values time spent on learner

talk and supports the use of a variety of functions of language. Language learning is believed to take place through conversation (Hatch, 1978) and learners are encouraged to use the target language in communicative exchanges. Similarly, the interactionist theory investigates interaction among learners and aims to find the ideal conditions for SLA (Chapelle, 1997). The theory assumes that language learning takes place in the course of interaction, because interaction provides input, promotes output and allows for feedback and modified output. (Long, 1983; Krashen, 1985; Swain, 1985; and Chapelle, 1997)

2.1.2.2 Benefits of CMC in Language Learning

There are various studies showed the benefits of CMC in education field. Blake (2000) analyzed the discourse created in the chat windows to find out if they had a significant effect on language learning. The study found that using CMC can provide many benefits and increased possibilities for access outside of the classroom environment. Meanwhile, Zeng and Takatuska (2009) in their study examined EFL learner's dialogues in synchronous task-based CMC. They found that CMC environments assisted learners' text-based collaborative dialogue and fostered their language learning.

Pellettieri (2000) examined the effect of task-based network-based communication (NBC) to facilitate the negotiation of meaning and form-focused interaction. The study concluded that task-based synchronous NBC, such as chatting, can indeed foster the negotiation of meaning. CMC creates new opportunities for language learners to interact with each

other's. In addition, Kitade (2000) explored to what extent CMC actually a useful device for L2 was learning. The results indicated that CMC provides potential benefits for learning: facilitating comprehensible and contextualized interaction, learners' self-correction, and collaborative learning environment.

Warschauer (2001) pointed out that the participation in CMC is more balanced than in the face-to-face interaction which is dominated by some students. Freiermuth (2001) assumed that the students felt more comfortable in an online chat. They were less anxious about any language lacks that might cause them to refrain from speaking in a face-to-face setting.

Xiao and Yang (2005) pointed out that students in an EFL setting never have enough English native speakers to practice their English. Their solution was the use of web conferences which can offer EFL students the chance for interaction with native speakers of English. The results of this study found that CMC involving native speaking students was superior to face-to-face interaction with nonnative peers in two regards: significantly improved fluency for the experimental group, and, to a lesser degree, improved accuracy. This study demonstrated that CMC offers superior chances for interaction and improvement to students in an EFL setting where native speakers are few.

Wang (2006) found that videoconferencing-supported negotiation of meaning may facilitate second language acquisition at a distance and has its own distinct features. Young (2003) assumed that CMC would make

learning English more socially interactive and reduce students' affective filters. The use of the internet appeared to motivate students and reduce their anxiety over language production.

Meanwhile, Barrs (2012) investigated the impact of CMC on learners' interaction to develop target language interaction outside the classroom. The results indicated that CMC environment can offer students a suitable and useful platform on which to continue to communicate in the target language while outside of their classes.

In sum, CMC is a useful environment for language learning. It facilitates the interaction between the teacher and the students, and also between the students themselves. It fosters the negotiation of meaning. The students feel comfortable when CMC is used. With the help of CMC, language learners can interact with native speakers of the target language easily at anytime and anywhere.

2.2 Collaborative Learning

According to Nunan (1992), collaborative learning is defined as a process in which participants are collectively responsible for developing knowledge through structured activities and in which the instructor's role is to facilitate and co-participate in the learning process, and it is one of the principal elements in sociocultural perspective, in which learning is seen as a social process rather than restrained. Collaborative learning is based on the idea that learning is a naturally social act in which the learners discuss among themselves and learn from each other. Different from traditional learning, which is characterized as the sage on the stage where learning is

a transmission of information from the teacher to learners, collaborative learning is a learning method that considers social interaction as a means of knowledge construction (McInnerney & Roberts, 2004). This type of group-based learning is related to the concept of the teacher as facilitator and the learners as active participants (Lamy & Hampel, 2007). As far as unit of analysis are concerned, collaboration is principally conceptualized as a process of shared construction (Stahl, et al, 2006) which is assumed to be a group interactional achievement, rather than an expression of individual mental representations.

In general, learners are required to take more control of their learning process in collaborative than in cooperative learning. It is suggested than collaborative learning can be applied to higher level skills than is the case in cooperative learning; and collaborative objectives can be seen as one of the motivational elements, along with competitive and individualistic goals, in classroom learning (Beatty & Nunan, 2004).

Both collaborative and cooperative learning involve processes leading to supporting peer group impact on intellectual concerns, renegotiating classroom control, validating knowledge as a social construct, contributing to education as a process of re-acculturation (Bruffe, 1999). The terms collaborative learning and cooperative learning are sometimes used interchangeably by some authors (Graham & Misanchuk, 2004; Greenfield, 2003; Kumpulainen & Wray, 1999; P.M. Nguyen, Terlouw & Pilot, 2005); meanwhile, some others (Barkley, Cross & Major, 2005; Beatty

& Nunan, 2004; Ingram & Hathorn, 2004; McInnerney & Roberts, 2004) insist on a transparent distinction between the two terms.

2.2.1 Collaborative Learning in L2 Environment

Similar to studies investigating the benefits of collaboration in the field of general learning, studies in the field of L2 collaborative learning have been widely advocated. Pica et all (1987), in a study on the interactions of 16 L2 students, found that the input of the target language was better perceived by the learners through confirmation, comprehension checks and clarification requests by peers. Collaborative tasks could also extend to learners' syntax and morphology was concluded in Swain's study (2001), conducted on the output of French writing with analysis of students' dialogues in an immersion class.

From the perspectives of collaborative input and output achievements, it can be said that L2 learning can be facilitated by interactions between learners. With regard to pedagogy, recent studies have shown that collaborative learning in L2 is said to enhance students' language scaffolding. In L2 learning, studies have confirmed that scaffolding happens not only through teachers' assistance but also through peer support (Donato, 1994; Guerrero & Villamil, 2000). Interactions between teachers and students and between students can lead to students' L2 writing development.

2.2.2 Components of Collaborative Learning

According to Ingram and Hathorn (2004), operationalize collaborative learning into three critical attributes, - interdependence,

synthesis of information and independence. The key element of interdependence not only influences individual behavior in positively promoting learning in others, rather than obstructing or ignoring learning of others as in competitive or individual learning respectively, it also affects outcomes of the groups, in which the individual's aim will not be attained unless the group goal is accomplished. Collaborative learning also requires the exchange of ideas, a creation of new synthesis of shared information. Independence of the teacher is the third requirement of collaborative learning, which facilitates the classroom power shift from the teachers to the learners, and encourage the autonomy of learners.

These three attributes are measured by examining the elements of participation, interaction and idea synthesis of the collaborative group. While participation among the participants, equal participation in and of itself is not enough. The level of interaction and synthesis of ideas of the group should be the main focus for the analysis. Without these three characteristics cannot be called collaboration (Ingram & Hathorn, 2004).

2.3 Writing

Writing is quite different from speaking, and it is more than just a physical representation of what is thought and said. The visual representation of one's own or other's thoughts can have surprising effects. One of the simplest but also most effective representations of cognitive concepts is to write them down. Writing can be "a way to explore one's feelings and thoughts" (Zamel, 1982). When talking about writing, it refers to its composing sense, rather than transcribing or copying. Composing a

written document is a creative act which involves a broad range of cognitive procedures (Flower and Hayes, 1981). It is a process which usually implies revision. Revision is the visible product of consuming, rethinking and rewriting of what has been written before, and therefore an expression of cognitive development. As Sommers (1980, p. 387) puts it, experienced writers have “a sense of writing as discovery”.

2.3.1 Writing Process

According to the traditional model of the writing process, it consists of three stages, namely prewriting, writing and rewriting (Rohman, 1965; Murray, 1978a). Meanwhile, Faigley and Witte (1981) call this the tidying-up view, since it considered revision mostly as copy-editing. This view was supported by the fact that in teaching usually only the relationship between certain pedagogical approaches and the final writing (i.e. the product) was analyzed.

In an attempt to better understand the cognitive processes of writers during the writing process, Flower and Hayes (1981) suggest four basic aspects of the writing process, based on a protocol analysis. First, the writing process is made up of a set of distinctive cognitive processes, which are applied in a non-linear fashion. Second, these cognitive processes are embedded and organized hierarchically. Third, the overall writing process is goal-directed. Fourth, authors create their own high-level goals and sub-goals and sometimes change high level. And last, goals based on what they have learned during writing

2.3.2 Collaborative Writing

The collaborative writing process is a particularly interesting phenomena as its study reveals insights not only about the process of writing and revision itself, but also about how authors work together. When more than one author works on the same document, interaction takes place. The interaction does not necessarily involve direct communication, but may also happen by editing a piece of text which has been written earlier or by augmenting an existing document from another author. The success of this complex process is often considered to be dependent on the degree of coordination among the authors (Allen et al., 1987).

Collaborative writing is different from other forms of group work in the writing class in that in encompasses every group member's effort and participation at every stage of the writing process, from planning through composing to revision. It is the sharing of responsibility over the production of a single piece of work through the pooling of resources, negotiation, and decision-making. Allen et al (1987) defined collaborative writing as "collaborators producing a shared document, engaging in substantive interaction, and decision making-power and responsibility for it". In other words, collaborative writing focuses on the whole process of writing a single document through shared endeavor.

Research has shown that collaborative writing assignments and peer editing, as done in pairs or small groups, can have numerous affective benefits for the learner. Such tasks can enhance student interaction in the EFL classroom, lower the anxiety associated with completing tasks alone

and raise students' self-confidence (Johnson & Johnson, 1998; Raimes, 1998; Reid & Powers, 1993; Rollinson, 2005). Collaborative writing tasks require that students utilize a range of social skills that can help foster a sense of accountability, cooperation and community (Murray, 1992; Savova & Donato, 1991; Villamil & De Guerrero, 1996). In addition, Reid (1993) suggests that collaborative writing efforts can increase motivation, risk-taking and tolerance among learners, and Foster (1998) notes that these tasks can maximize student interaction in the target language.

2.3.2.1 Online Collaborative Writing

Some scholars have pointed out that unless collaborative activities are carefully orchestrated by the teacher, students may not take group work seriously, socializing instead of working, allocating most of the work to one member, completing the activity superficially, and generally not engaging fully in a collaborative process (Clark, 2003; Spigelman, 1998). The use of an educational technology such as wikis may help address these limitations and provide a useful platform for facilitating collaborative learning. This is due to an important feature of wikis, as Lamb and Johnson (2007) emphasised, the history function. This can record automatically the history of revisions, and help students and teachers trace and reflect on the progress of the collaborative learning and the contributions by each participant.

The rapid development of wikis and their technology affordances has resulted in their widespread use as platforms to support collaborative writing (Mak & Coniam, 2008; Wong et all, 2011). In recent years, real time

collaborative editing (RTCE) wiki systems such as PBworks.com, Wikispaces.com, Wetpaint.com and Wikia.com have been widely used by educators and researchers to support English writing (PBworks, 2010; Wetpaint, 2010; Wikia, 2010; Wikispaces, 2010). There have been wiki projects such as the National Writing Project (NWP), which includes 200 university-affiliated sites across the United States built to improve the teaching and learning of writing in English.

SCMC and ACMC each has its own characteristics, complementing each other (Honeycutt, 2001). While synchronous discussions may be best suited for brainstorming and quickly sharing ideas during interaction, asynchronous exchanges allow more time for considered opinions and are more effective for deeper discussion of ideas (Ingram & Hathorn, 2004; Sotillo, 2000). As Motteram (2002) states, SCMC tools have often been considered as appropriate for the social aspects of learning, whereas ACMC tools have been viewed for a more academic orientation. In previous study, Blake (2000) revealed that the combination of using synchronous and asynchronous CMC in collaborative writing to his ESL has increased opportunities to engage in collaborative tasks online could provide a significant benefit in light of the arduous journey. Providing students with increased opportunities to engage in negotiations, in the sense defined above, could direct language teachers to accord CMC a more expanded role in the L2 curriculum. Another study was conducted by Nguyen (2011) to his Vietnamese students in English Major. In his study, he compared two classes, - one class with ACMC and SCMC and another class with face to

face. The study showed that learners' language production in the online discussion was not significantly high, but the interaction and negotiation led to a satisfactory level. In addition, the use of wiki as a platform for peer exchanges made the students more on participation, interaction and negotiation.

2.3.2.2 Organization of Online Collaborative Writing

Based on the suggestion of collaborative strategies in Ede and Lunsford (1990), Lowry et al. (2004) define the following four collaborative writing strategies:

- Group single-author writing: a team decides over the content of the document that should be written, but only one author writes the final document; only used for simple collaborative writing tasks, where consensus on the written document is not very important
- Sequential writing: one author writes after another, either a part of the document or a complete draft which is revised by the next author
- Parallel writing: authors work in parallel, each on a different part of the document (e.g. a section or chapter of the entire document; horizontal-division writing) or on a different subtask expressed by the role of the author (e.g. reviewer or editor; stratified division writing)
- Reactive writing: authors write and react to others' changes on the same document in real-time, as opposed to parallel writing this can happen in the same parts of the document and is usually not preplanned and not explicitly coordinated.

2.3.2.3 Activities of Online Collaborative Writing

Previous research suggests that there are recurring activities typically involved in a collaborative writing task (Galegher and Kraut, 1994; Lowry et al., 2004). Galegher and Kraut (1994) analyzed student collaborative writing projects and found three high-level phases in the following (typical) order: plan, write, and revise. However, the time spent on the individual phases varied significantly for different communication modalities (e.g. face-to-face, computer). Going a bit more into detail, Lowry et al. (2004) suggest a list of seven collaborative writing activities: first, brainstorming: collecting new ideas for the document. Second, converging on brainstorming: among all authors, processing the results of the brainstorming. Third, outlining: creating a high-level structure and direction of the document. Fourth, drafting: writing the initial text of the document, usually incomplete. Fifith, reviewing: reading and annotating the result from drafting, suggesting improvements to content, grammar and style. Sixth, revising: responding to the comments from reviewing, by applying changes to the document. Lastly, copy-editing: applying final changes to the document, typically related to consistency and carried out by a single author

2.3.3 Argumentative Text Writing

The skill of argumentation has long been recognized as essential in academic studies at various levels (Applebee et al., 1994; Ne´meth and Kormos, 2001). At the university level, for instance, there is a great demand for reading and writing arguments (Bridgeman and Carlson, 1984; Feak and Dobson, 1996; Varghese and Abraham, 1998). Regarding reading

arguments, students need to learn how to critically judge, evaluate, and respond to propositions presented in texts; in terms of writing arguments, students are often required to express their own points of view in academically appropriate forms and strategies (Varghese and Abraham, 1998).

Argument is the process of making what writers or speakers think clear to themselves and to others. It takes them from a private viewpoint to a clearly stated position that they can defend publicity in speech or writing. In this sense, argument has a two-part structure: the statement of an opinion and the statement of one or more reasons for holding that opinion (Crusius & Channell, 1999). Moreover, Intraprawat (2002) defines argumentation as an attempt to persuade someone of something. To make an argument, writer need to express their point of view on controversial issue (claim). The writer has to support it with evidence including facts or their own opinion in order to convince the reader. Apart from convincing the reader, another purpose of argumentative writing is to defend writer's claim or to refute another claim on a certain topic.

2.3.3.1 Structure of Argumentative Text

According to Hatch (1992), a classical description of the structure of argumentative text consists of introduction, explanation of the case under consideration, outline of the argument, proof, refutation, and conclusion. However, there are many various patterns of argumentative text than the classic form for the argumentative genre.

Seeing form Genre-Based, there are two types of argumentative text, - exposition and discussion. Exposition is a genre whose purpose is to argue for a particular point of view on an issue, giving reasons to support a thesis and elaborate these reasons using evidence (Feez and Joyce, 1998; Macken-Horarik, 2002). Meanwhile, discussion is a genre whose purpose is to discuss an issue in the light of some kind of frame or position; to provide more than one point of view on an issue (Macken-Horarik, 2002; Unsworth, 2000); or to discuss both sides of an argument (Feez and Joyce, 1998).

In addition to pattern based on genre based, Reid (1998) suggests that there are three basic organizational plans for argumentative essays as shown in Figure 2.2. Noticeably, not all paragraphs are required in the essay; some could be omitted depending on the length of the essay.

PLAN A	
I.	Introduction (+thesis statement of intent)
II.	Background paragraph about topic
III.	Pro argument #1 (weakest argument supporting the opinion)
IV.	Pro argument #2 (stronger argument supporting the opinion)
V.	Pro argument #3 (strongest argument supporting the opinion)
VI.	Con (counterarguments and refutation)
VII.	Solution to the problems (Optional)
VIII.	Conclusion (summary + solution, recommendation, or call to action)
PLAN B	
I.	Introduction (+thesis statement of intent)
II.	Background paragraph about topic
III.	Con (counterarguments and refutation)
IV.	Pro argument #1 (weakest argument supporting the opinion)
V.	Pro argument #2 (stronger argument supporting the opinion)
VI.	Pro argument #3 (strongest argument supporting the opinion)
VII.	Solution to the problems (Optional)
VIII.	Conclusion (summary + solution, recommendation, or call to action)

PLAN C

I. Introduction (+thesis statement of intent)
II. Background paragraph about topic
III. Counterargument #1 + Pro argument to refute it
IV. Counterargument #2 + Pro argument to refute it
V. Counterargument #3 + Pro argument to refute it
VI. Solution to the problems (Optional)
VII. Conclusion (summary + solution, recommendation, or call to action)

Figure 2.2 Three Basic Organizational Plans for Argumentative Essays (Reid, 1988)

2.3.3.2 Toulmin Argumentative Model

Basically, Toulmin's rules for rational argumentation test the validity of support for a claim by examining the make-up of the claim, data and warrant within an argument. An argument, according to Toulmin, "is movement from accepted data, through a warrant, to a claim" (Brockriede & Ehninger 44). Data (or reason) is information that answers the question "What have you got to go on?" A claim is a statement or assertion you intend to prove as 'true.' Claims involve taking a stand, since they usually have a controversial nature. A warrant is the logical persuasive connection between the claim and the reasons supporting it. Warrants are unstated assumptions about value that make the claim seem plausible. Since an argument is valid only if the required procedure model is followed and the warrant from data to claim is accepted, the warrant is crucial in establishing validity.

Sort of scholars propose various model of argument; however, the Toulmin's model is widely used and accepted. Toulmin (1958, as cited in Connor, 1996) defines argumentation as an attempt to justify statements. The first step is to express an opinion via assertion, preference, view or judgement and the statement put forward to be upheld is *claim*. The second

feature is the *data* designed to support the claim and to counter its possible challenge. The last feature is the justification or *warrant* linking the data to the claim. It is obliged that claim, data and warrant must be included in every argument. Toulmin goes on to add three additional elements to a more complex version of his argument model: a qualifier (which registers the degree of force which the writer believes his claims holds), a reservation or rebuttal (which anticipates certain objections and lists conditions in which the warrant doesn't apply), and backing/evidence (credentials which justify the warrant when readers are not willing to accept it at face value). But those other three elements of argument, - backing, rebuttal and qualifier, - are optional (Connor, 1996).

In the L2 academic settings, several studies have already shown that Toulmin model can be used as a heuristic tool to teach argumentative writing in both L1 and L2 contexts. According to Yeh (1998), Toulmin's model of argument is useful for teaching and assessing the argument for many reasons. One of reasons is that this model is widely accepted and used to assesses, teach, and study both debate and argumentative writing. Moreover, this model helps unskilled writers to produce a simple argument. In addition, the major advantage is this model presents the basic layout of an argument. Yeh (1998) investigated the effect of two types of instruction on the argumentative writing abilities of 116 7th grade American students (mostly from non-English speaking family backgrounds). The study showed significantly greater effectiveness for the former type of instruction in assisting the 7th graders to grasp argument knowledge and strategies.

Similarly, Bacha (2010), adopted Toulmin's argumentative elements as a macro-scale organization for argumentative writing and introduced it to Arabic EFL university students in Lebanon; students were found to benefit from this instruction in that their papers contained more effectively stated theses and refutations of counterarguments. Studying with a group of undergraduates in a Singapore university, Varghese and Abraham (1998) provided students with explicit instruction in the Toulmin model, and students produced more explicit claims, more specific and developed data, and were aware of views from both sides as well.

2.3.3.3 Writing Assessment

According to Bailey (1998), there are three approaches that have traditionally been used to rate learners' writing, - holistic, analytic and objective. The holistic scoring conveys the idea that a single scale can be used to describe different levels of writing performance. The reader generally reacts to the student's composition as a single awarded to the writing while it may mask differences across individual composition and provide no useful feedback to learners or teachers. Important differences may not be captured across various writing tasks with such broad scales (Bailey, 1998). In addition, White (1984, as cited in Weigle, 2002) suggests that holistic scoring is advantageous since the writers will be awarded for what they do well. Holistic scoring reflects the reader's authentic, personal reaction most closely to a text so it is more valid than analytic scoring where too much attention to the parts is likely to obscure the meaning of the whole.

Meanwhile, Weigle (2002) suggests, in analytic scoring, scripts are rated based on several aspects of writing such as content, organization, cohesion, register, vocabulary, grammar, or mechanic, depending on the assessment purpose. Thus, analytic scoring schemes provide more details about a test taker's performance in different aspects of writing and are consequently preferred over holistic schemes. Furthermore, according to Weigle (2002), the analytic scoring provides more diagnostic information about students' writing abilities, which sets as its primary advantage over a holistic scheme among all others. In some researches, it is more useful in rater training because inexperienced raters can more easily understand and apply the criteria in separate scales. It is also useful for second-language learners who are more likely to show a marked or uneven profile across different aspects of writing. It can be more reliable than holistic scoring and the reliability tends to be improved by the scoring scheme in which multiple scores are given individually (Hampl-Lyons, 1999, as cited in Weigle, 2002). However, as the major disadvantage, it takes longer time than holistic scoring since the readers are required to make more than one decision for every script.

According to Connor and Lauer (1998), the rhetorical model of persuasion and argumentation for the analysis of students' persuasive essays is called the Toulmin model of argumentative writing (1958), which aims to evaluate the argumentative strength level of the essay. The Toulmin's model was found to be a powerful predictor of writing quality in

the international study of L1 writing in English of students from the U.S, England, and New Zealand (Connor & Mbaye, 2002).

In addition, based on Knudson study (1997), Toulmin's model of argument is validated as a basis of argumentative writing assessment. In his study, students' writings were scored holistically (see Appendix E), and according to Toulmin's Criteria as modified by McCann (1989) (See Appendix D). The two kinds of scoring procedures (holistic and Toulmin's criteria) were used to provide information about overall competence in writing (holistic) and to provide specific descriptive information about writing with respect to criteria for argumentative writing (Toulmin's criteria). Holistic scoring gives evaluations of general proficiency. The scoring system was based on characteristics in students' written responses to specific tasks. In this sense, primary trait analysis is descriptive because it furnishes information about why a paper is assigned a particular score (Faigley et al.). The guide according to Toulmin's (1958) criteria, specified that each response be evaluated according to each of six features: claims, data, warrants, propositions, opposition, and response to opposition. Those scores ranged from 0 (low) to 6 (high).

2.4 Computer Mediated-Communication in Collaborative Learning

Based on a critical history review of the literature, Stahl et al (2006) commented that "learning sciences as a whole have shifted from a narrow focus on individual learning to an incorporation of both individual and group learning and the evolution of CMCL has paralleled this movement" (Stahl, et al, 2006, p. 411). In other words, they emphasized that the focus is now

less on what is taking place in the heads of individual learners than on what is happening between and among group members during their interactions for collaborative knowledge building. CMCL present and environment in which a student interacts with one or more collaborating peers to solve a given problem, mediated by a computer including all of its communicative facilities, prevalently divided into asynchronous and synchronous communication capacity with high and multiway interactivity.

A current theme in the literature is that collaborative learning and collaboration via CMC enhance communicative language teaching and learning, creates not only an enriching opportunity for language practice itself but also a promising environment for general skill development (Warschauer, 1997). The text-based nature of CMC has meant that collaboration has become a prime source of data for researchers from both interactionist and sociocultural approaches who are investigating SLA on online interaction environment.

2.4.1 Interaction of Collaboration in CMC

Findings from some researches suggest that CMC modes not only promote greater opportunities for interaction (White, 2003), a central elemet of the language process, but also that the interactional features of CMC may lead to success in collaboration (Abrams 2005, White, 2003). Using socialcultural theory to lead his study, Dathower (200) explored the interactional features of SCMC in an intermediate L2 class need six features were indentified, namely intersubjectivity, off-task discussion, greetings,

and leave takings, identity explanation and role play, humor and sacrcasm, and use of the L1.

2.4.2 The Analysis of Collaboration Interaction in CMC

Online interaction is a complex and discursive phenomenon. Researchers in this field generally agree that mixed method multidimensional analysis is necessary to provide in-depth understanding (Wegerif & Mercer, 1997; Hmelo-Silver, 2003). To date, several researchers had attempted to develop coding schemes to account for the different aspects of online interactions. One of the earlier attempts to analyze content is the model proposed by Henri (1992) that includes five dimensions and their categories Table 1.

Table 2.1 Henri's (1992) Model of Content Analysis

Dimension	Categories
Participation	Levels of participation; Types of participation
Social	Statement or part of statement not related to subject matter
Interactivity	Explicit interaction: Direct response, Direct commentary Implicit interaction: Indirect response, Indirect commentary Independent statement
Cognitive Skills	Elementary clarification; In-depth clarification; Inference; Judgment; Application of strategies
Metacognitive Knowledge and Skills	Personal; Task; Strategies; Evaluation; Planning; Regulation; Self awareness

Henri believed that her model would help educators to understand the learning processes that occur online comprehensively. Although the model is lacking in clear criteria and detailed descriptions (Howell-Richardson & Mellar, 1996), it is a useful tool in terms of laying the groundwork. Based on Hara, Bonk and Angeli's study (2000), they adapted the model for a study of 20 graduate students' online discussions. The results indicated that although students' participation was limited to one posting per week, the postings were cognitively deep. For the dimension on

interactivity, they devised message maps that depicted students' interaction clearly. The study also revealed the difficulty in achieving high inter-rater reliability for the metacognitive dimension.

Researchers that try to measure learning sometimes use models of interaction to determine the level of cognitive activity. They look for evidence of knowledge being acquired and used in written transcripts of discussions (L. Gunawardena, Lowe, & Anderson, 1997). The model proposed by Gunawardena et al. (1997) was designed specifically for examining transcripts of computer-mediated discussions.

Table 2.2 Gunawardena, Lowe & Anderson's (1997) Interaction Analysis Model

	Phase	Operation
1	Sharing / comparing of information	Statement of observation or opinion; statement of agreement between participants
2	Discovery and exploration of dissonance or inconsistency among participants	Identifying areas of disagreement, asking and answering questions to clarify disagreement
3	Negotiation of meaning/co-construction of knowledge	Negotiating meaning of terms and negotiation of the relative weight to be used for various agreement
4	Testing and modification of proposed synthesis or co-construction	Testing the proposed new knowledge against existing cognitive schema, personal experience or other sources
5	Agreement statement(s)/application of newly constructed meaning	Summarizing agreement and metacognitive statements that show new knowledge construction

In 2011, Nguyen proposed new interaction analysis framework for analysing interaction which occur in SCMC and ACMC, which based on collective activity proposed by Mangenot and Nissen (2006), - sociocognitive, organizational and sociocognitive. He detailed the categories into subcategories which based on Herring (1999), Snorch (2005), Liu & Sadler 2003) and Liou & Peng (2005).

2.4.2.1 Socioaffective

Socioaffective reflects how student get along with the others during the interaction process. In synchronous CMC, the subcategories he used

are social cohesion, emotional expression, intersubjectivity and personal exchanges. Meanwhile in scynchronous CMC, he added use of L1.

Social cohesion is defined as to greeting, introducing, closing farewell. Then emotional expression regarding humors, self-disclosure and use of emoticons. Intersubjectivity concerning encouragement, personal requests, evaluation, acknowledgement, seeking agreement, and agreeing or rejecting ideas. Lastly personal exchanges asking and responding to ideas not related to task. Then for use L1, it was defined as the use of L1 in interaction.

2.4.2.2 Organizational

Organizational indicates the planning, monitoring and evaluating of the task. In synchronous CMC, the subcategories are teacher involvement, group management, discussion management and technical management. Meanwhile in asynchronous CMC, he eliminated discusion management then added feedback management.

Teacher involvement is defined as the teacher's involvement in interaction. Then group management is defined as the readiness to start the discussion, seeking and providing help, reference request and group-work time arrangement, meanwhile in asycnhronous CMC, it is defined as expression the finishing tasks through peer review and group work time management.

2.4.2.3 Sociocognitive

Sociocognitive signifies how the students resolve together the task together. This interaction in synchronous CMC is subcategorized into idea

development, topic selection, content arrangement, task management, essay structure arrangement, conclusion and language-related. Meanwhile in asynchronous CMC, he focused on more peer feedback in area some areas of writings, - such as alteration, suggestion, evaluation, explanation and clarification, which based on Liu & Sadler 2003) and Liou & Peng (2005). The areas of writing covers in global and local revision. Global refers to feedback relating to idea development, audience, purpose, and organization of writing; meanwhile local refers to comments that were related to copy-editing (e.g., wording, grammar, and punctuation). Nguyen also specified the comment into critical and complementary comment.

2.5 The Theory of User Acceptance and Use of Technology

Unified Theory of Acceptance aand Use of Technology Model (UTAUT) is one of the technology acceptance models has been developed by Venkatesh et. al. (2003) as unified from eight existing model of acceptance technology. The development of technology which is increasing rapidly, becoming one of the reasons to develop a new model of UTAUT. The UTAUT model was originally developed to describe the acceptance and use of technology, will be developed for other contexts, such as consumer technologies. It because there are many industries that develop application and services of technology, targeting consumers.

The result of the development of this model called UTAUT 2. The purpose of the UTAUT model 2 are (1) identifying three key constructs from prior research on both general adoption and use of technologies, and also consumer adoption and use of technologies, (2) altering some of the existing relationship in the original conceptualization of UTAUT, and (3) introducing new relationship (Venkatesh et. al., 2012). UTAUT model 2 has seven constructs that affect behavioral intention and use behavior include facilitating condition, performance expectancy, effort expectancy, social influence, hedonic motivation, price value, and habit.

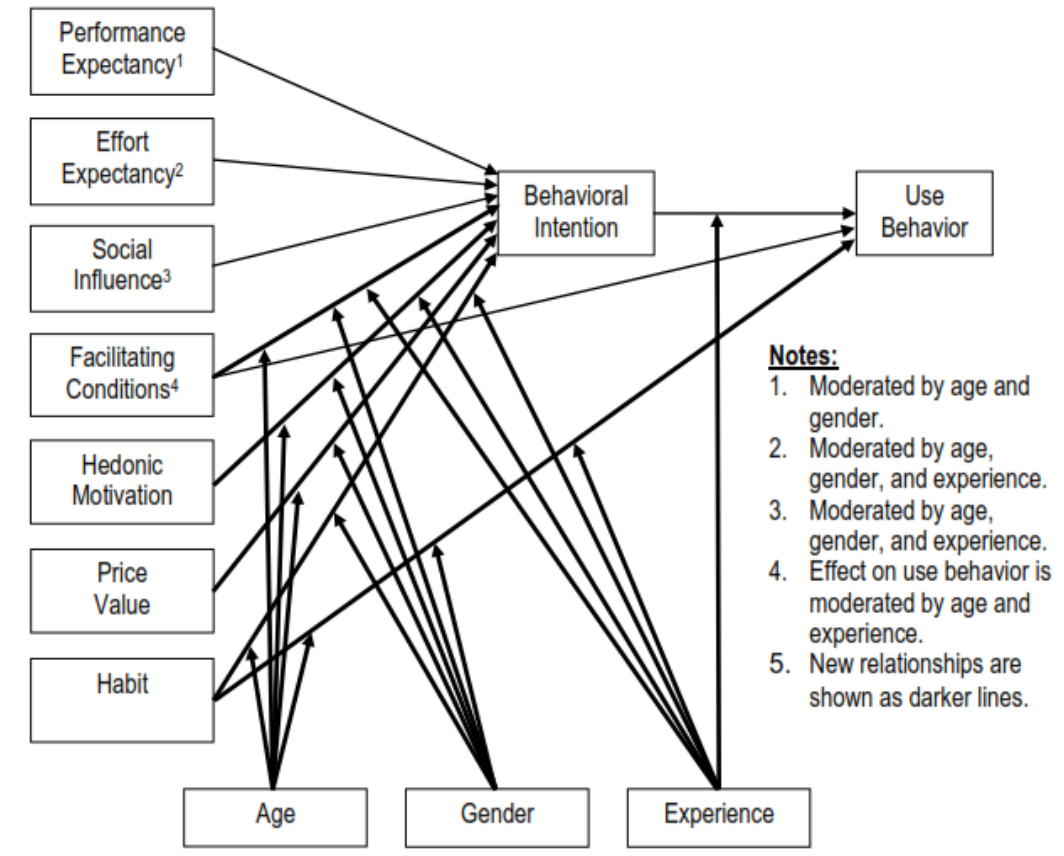

Figure 2.1 UTAUT 2 (Venkatesh et. al., 2012)

Based on Figure 2.1, UTAUT 2 is constructed by seven constructions. First, performance expectancy is defined as “the degree to which using a technology will provide benefits to consumers in performing

certain activities" (Venkatesh et al., 2012, p. 159). According to Venkatesh et al. (2012) the consumers are the users of the technology in a consumer user context rather than in an organizational user context (Venkatesh et al.,2012). Second is effort expectancy is defined as "the degree of ease associated with consumers' use of technology" (Venkatesh et al., 2012, p. 159). Third, social influence is defined as the extent to which consumers of technology perceive that people who are important to them (e.g. relatives, friends) think they should use the technology (Venkatesh et al., 2012). Fourth is facilitating conditions is defined as "consumers' perceptions of the resources and support available to perform a behavior" (Venkatesh et al., 2012, p. 159). Fifth, hedonic motivation is "the fun or pleasure derived from using a technology."(Venkatesh et al., 2012, p.161). Sixth, price value is "consumers' trade-off between the perceived benefits of the applications and the monetary cost for using them (Venkatesh et al. 2012, p.161; Dodds et al., 1991)". Lastly, habit is "the extent to which people tend to perform behaviours automatically because of learning (Limayem et al. 2007, p.709), while Kim et al. (2005) are equating habit with automaticity (Venkatesh et al., 2012).

2.6 Related Studies

Kuteeva's (2011) findings reveal that writing on the wiki made students pay close attention to grammatical accuracy and structural coherence. In contrast to Kuteeva's (2011) results, Kessler's (2009) study indicates that NNS (Non-Native Speaker), EFL teacher candidates gave considerably more attention to the content when editing the wiki, although

they were encouraged to focus on language accuracy while writing and revising their own and others' texts. It is noteworthy that the students in Kessler's (2009) study were not correcting grammatical issues that did not impede the meaning, even though they were capable of it. Regarding my case study, the wiki tasks in Academic Reading and Writing course were designed based on Kuteeva's (2011) findings. Thus, the teacher wanted her students to focus primarily on grammatical accuracy rather than content when editing the wiki.

Similarly, to Kuteeva (2011), Wheeler and Wheeler (2009) demonstrate that the examined groups of students considerably raised their skill level in academic writing through their formal collaborative participation in the course wiki. However, in Wheeler and Wheeler's (2009), as well as Lee's (2010) case studies, collaborative writing was limited as a result of the reluctance of many participants to correct each other's' texts on the wiki. In the case of Wheeler and Wheeler's (2009) study, their unwillingness was presumably caused by the fact that this was a teacher training course, and most of the participants were already experienced teachers, so they were afraid to question another teachers' competence.

Lee (2010), on the other hand, claimed that 40% of her participants simply did not feel confident in their own writing; therefore, they were not willing to edit their peers' texts. In contrast to the above findings, Kessler (2009) demonstrates that the majority of examined students felt comfortable correcting and critiquing one another. Peer correction is certainly becoming more and more popular among teachers, and this frequent use of peer

feedback in language learning courses can be effectively justified by the theories mentioned in the previous section. Furthermore, Coit (2004) claims that, according to collaborative learning theories, peer review plays a crucial role in L1 and L2 writing classrooms. It has been shown that when the students are allowed to correct their classmates' papers, they feel more confident and motivated during the course. Lin and Chien (2009) have made an invaluable contribution to practical justification of peer feedback in EAP. They examined a group of Chinese students to investigate how effective peer feedback was in the enhancement of the students' academic writing skills. After an intensive eight-week English course which included writing training and peer correction activities, the students reported that peer feedback assisted them to better understand the concepts of academic writing.

In previous study, Blake (2000) revealed that the combination of using synchronous and asynchronous CMC in collaborative writing to his ESL has increased opportunities to engage in collaborative tasks online could provide a significant benefit in light of the arduous journey. Providing students with increased opportunities to engage in negotiations, in the sense defined above, could direct language teachers to accord CMC a more expanded role in the L2 curriculum. In addition, well-designed networked tasks promote learners to notice the gaps in their lexical interlanguage in a manner similar to what has been reported in the literature for oral learner/learner discussions. Another study was conducted by Nguyen (2011) to his Vietnamese students in English Major. In his study, he

compared two classes, - one class with ACMC and SCMC and another class with face to face. The study showed that learners' language production in the online discussion was not significantly high, but the interaction and negotiation led to a satisfactory level. In addition, the use of wiki as a platform for peer exchanges made the students more on participation, interaction and negotiation. Unfortunately, the study conducted by Nguyen was still in classroom which cannot be generalized as online collaborative writing demanded by the students in present time.

2.7 Conceptual Framework

Based on the discussion of theories above, SCMC and ACMC each has its own characteristics, complementing each other (Honeycutt, 2001). While synchronous discussions may be best suited for brainstorming and quickly sharing ideas during interaction, asynchronous exchanges allow more time for considered opinions and are more effective for deeper discussion of ideas (Ingram & Hathorn, 2004; Sotillo, 2000). As Motteram (2002) states, SCMC tools have often been considered as appropriate for the social aspects of learning, whereas ACMC tools have been viewed for a more academic orientation.

Argumentative writing appears to be the most important task for the students., which also has been justified by many researchers due to its nature as the most difficult type of writing (Ferris, 1994; McCann, 1989), as its complexity in activity in that the writer takes position on a controversial issue and gives reasons and supporting evidence to convince the reader to accept his or her position (Anker, 2004; Intraprawat, 2002). In addition,

argumentative writing requires students to embrace a particular point of view and try to convince the reader to adopt the same perspective or to perform a certain action (Nippold, Ward-Lonergan, & Fanning, 2005). Thus, the writer needs to draw upon his or her knowledge of argumentative discourse and create sub-goals related to supporting a thesis (Scardamalia & Bereiter, 1986).

Based on Knudson study (1997), Toulmin's model of argument is validated as a basis of argumentative writing assessment. In his study, students' writings were scored holistically (see Appendix E), and according to Toulmin's Criteria as modified by McCann (1989) (See Appendix D). The two kinds of scoring procedures (holistic and Toulmin's criteria) were use to provide information about overall competence in writing (holistic) and to provide specific descriptive information about writing with respect to criteria for argumentative writing (Toulmin's criteria). Holistic scoring gives evaluations of general proficiency. The guide according to Toulmin's (1958) criteria, specified that each response be evaluated according to each of six features: claims, data, warrants, propositions, opposition, and response to opposition. Those scores ranged from 0 (low) to 6 (high).

Online interaction, as a form of discourse, is a complex and discursive phenomenon. To date, several researchers had attempted to develop coding schemes to account for the different aspects of online interactions. As the researches on online interaction still develops, the framework proposed by Nguyen (2011) can covers the both tools, SCMC and ACMC, which the interactions are categorized into socioaffective,

organizational and sociocognitive. In addition, he specifies the categories into subcategories which helps to find out more the interactions occurs.

Thus this study was conducted to investigate the process how collaboration occurs in using both synchronous CMC (SMCM) and sychronous CMC (ACMC), - Google Hangout and Pbworks, by investigating the types of interactions, then the quality of argumentative text based on Toulmin. Finally the perception and reflection of students will reveal whether both tools, Google Hangout and PBWorks, are helpful or not in their collaboration.