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Learning English as a Foreign Language in a Blended Mode of Face-to-face and Online Discussions: A Case Study in a University in Taiwan

Su-Ching Huang

A thesis submitted in partial fulfilment of the requirements for the degree of

Doctor of Philosophy in Education

Faculty of Education and Social Work
The University of Sydney

2013
AUTHOR’S DECLARATION

This is to certify that:

I. this thesis comprises only my original work towards the PhD in Education Degree
II. due acknowledgement has been made in the text to all other material used
III. the thesis does not exceed the word length for this degree.
IV. no part of this work has been used for the award of another degree.
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Signature(s): Su-Ching Huang

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Date: 28 February 2013
ABSTRACT

Previous studies have documented many beneficial results arising from integrating online discussion with face-to-face instruction for language learning (Chang, 2006; Chen, 2005; Chiu, 2009; Kung, 2004; Liang, 2010; Shin, 2006; Sotillo, 2000; Warschauer, 1996a; Yildiz & Bichelmeyer, 2003), yet the interactive process of students within both formal and informal contexts remains to be explored. This research examined the dynamics of student learning in blended face-to-face and online discussions in and after class in the context of learning English as a foreign language (EFL) in a university in Taiwan. Informed by the sociocultural theory, a dynamic language learning model was developed to guide classroom instruction and task design for observing student interaction and meaning construction via blended discussions.

An embedded case study was applied with a mixed-methods approach to investigate how students jointly accomplished a set of tasks for blended learning, and how this blended approach had contributed to their English learning. A class of 49 EFL undergraduates were randomly grouped to participate in the research tasks. To make the data manageable for analysis, the data collected only include the qualitative data of observations on three groups of 14 participants, three focus groups with 11 participants, 72 online discussion logs of the three groups and the quantitative data of 45
questionnaire responses. Triangulation of data sources augmented and reinforced the overall quality and trustworthiness of the research.

An analysis of all the data obtained was carried out in the form of content analysis, transcript analysis, and descriptive analysis with the purpose of answering all research questions. By employing content analysis, observation data were coded on a revised Bales’ (1950) Interaction Process Analysis (IPA) model, which was used to measure face-to-face small group interaction by using a code-recode protocol. Content analysis was also used to analyse data from the online logs, which was coded on a revised Zhu’s (1998) online interaction analysis model to measure students’ online interaction by using an initial-final coding. For measuring students’ perceptions, the interview data were analysed by adopting transcript analysis, which applied opening and axial coding via Nvivo, and questionnaire data were subjected to descriptive analysis by entering and clearing data via the Statistical Package for Social Sciences (SPSS) Program.

The findings revealed that the participating Taiwanese EFL students learned primarily through mediation of L1 and L2, through collaborative interaction, through co-construction of meaning, and from teacher and peer scaffolds. Students tended to provide information and suggestions in face-to-face discussions by using L1, but they expressed thoughts, gave comments and probed questions in online discussions by using L2. Students changed their interactive patterns from passive to active by mutually
assisting each other in accomplishing group tasks. Data also showed that students recognised that blended discussions had contributed to their cognitive, language, interactional and affective gains. Blended discussions were perceived as learner-centred undertakings that increased participation, interaction, collaboration and engagement. Four key factors (curriculum factors, environmental factors, affective factors and language factors) were observed to have affected learning in this blended mode of instruction. The research concludes that blended discussions changed the conventional EFL classroom culture and had a positive influence on student learning in terms of interaction, processes of meaning construction and perceptions. It is recommended that longitudinal case studies with a greater number of participants be undertaken to validate this form of blended learning. There remains a need for further theoretical and empirical applications to examine other aspects of learning by applying this dynamic learning model in the L2 or other educational contexts.
ACKNOWLEDGEMENTS

This thesis could not have been completed without the support and advice from a number of people whom I would like to acknowledge.

First of all, I thank God for my supervisor, Associate Professor Hui-Zhong Shen, who has provided me with patient guidance, constant encouragement and insightful comments. He has inspired me immensely throughout the course of this doctoral work. Thanks are also extended to my current associate supervisor, Dr. Aek Phakiti, for his constructive comments, and my previous supervisor, Dr. Chun Hu, for her advice on research methodology. My special thanks are also due to those professors and co-mates of CoCo research centre. With their generosity, I spent my previous years in a supportive environment. I would also like to thank the examiners of my proposal committee for their critical suggestions. The expertise of these people with different backgrounds has rounded my thesis to a richer form.

Deepest appreciation goes to the participating instructor, Dr. Huilan Zhao, for her generous support in providing her undergraduate class for investigation with practical assistance. She made it possible for me to successfully finish data collection at I-Shou University in Taiwan. I also express my sincere thanks to the participating students, who cooperated in undertaking observations and a survey questionnaire, and graciously
spent time attending our interviews. Their genuine contributions made this research a worthwhile endeavour.

Lastly, and most importantly, my heartfelt gratitude must be reserved for my family and supportive friends from church. I particularly dedicate this thesis to my mum, who had been waiting for its completion, but passed away in April, 2012. It is impossible to express in words her tremendous support in enabling me to pursue my academic endeavours. I thank them for all their love, care and support which enabled me to overcome all the difficulties and complete this doctoral study.
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<tr>
<td>ALM</td>
<td>Audio-lingual method</td>
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<tr>
<td>CALL</td>
<td>Computer-assisted language learning</td>
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<tr>
<td>CHC</td>
<td>Confucian Heritage Culture</td>
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<tr>
<td>CL</td>
<td>Collaborative learning</td>
</tr>
<tr>
<td>CLT</td>
<td>Communicative Language Teaching</td>
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<tr>
<td>CMC</td>
<td>Computer-mediated communication</td>
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<tr>
<td>CMCL</td>
<td>Computer-mediated collaborative learning</td>
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<tr>
<td>CMD</td>
<td>Computer-mediated discussion</td>
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<td>EFL</td>
<td>English as a Foreign language</td>
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<td>ESL</td>
<td>English as a Second Language</td>
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<tr>
<td>ELT</td>
<td>English language teaching</td>
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<td>FGI</td>
<td>Focus group interview</td>
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<td>FL</td>
<td>Foreign language</td>
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<td>GEPT</td>
<td>General English Proficiency Test</td>
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<tr>
<td>GTM</td>
<td>Grammar Translation method</td>
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<td>IPA</td>
<td>Interaction Process Analysis</td>
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<td>L1</td>
<td>Mandarin Chinese</td>
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<td>L2</td>
<td>Second language</td>
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<td>MOE</td>
<td>Ministry of Education</td>
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<td>NETPAW</td>
<td>National English Test in Proficiency for All on the Web</td>
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<tr>
<td>NNS</td>
<td>Non-native speakers</td>
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<td>OG</td>
<td>Observation group</td>
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<tr>
<td>QDA</td>
<td>Qualitative Data Analysis</td>
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<tr>
<td>SCT</td>
<td>Sociocultural theory</td>
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<td>SLA</td>
<td>Second language acquisition</td>
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<td>SPSS</td>
<td>Statistical Package for the Social Science</td>
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<td>ZPD</td>
<td>Zone of Proximal Development</td>
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CHAPTER 1
INTRODUCTION

1.1 Background of the Research

The idea for this research originated from my experience as an English language teacher in Taiwan, trying to integrate discussion forums – a form of text-based computer-mediated communication (CMC) – into English instruction. After several trial attempts with undergraduate non-English major freshmen, I was puzzled to find that the level of student participation and interaction in out-of-class online discussion was low, and that this lack of participation significantly reduced the quality of their learning. In end-of-semester questionnaires, the students responded that they had insufficient time to participate in online discussion after class owing to the heavy study load from all their subjects. In addition, they encountered a variety of technical problems (e.g. Internet connection) that further decreased their interest in participating. However, my previous classroom observations of in-class online discussion of a translation task seemed to provide a clue about how to solve the problem. It appeared that the immediacy of responses might facilitate participation and interaction while different types of tasks might affect students’ engagement. This impression prompted the inquiry relevant to this research project.

The general educational literature about CMC has documented many beneficial results of using this tool for distance learning, such as increased participation (Harasim, 1990;
Rohfeld & Hiemstra, 1995), promoted interaction (Angeli, Valanides, & Bonk, 2003; Fahy, Crawford, & Ally, 2001; Jonassen, Davidson, Collins, Campbell, & Haag, 1995), improved critical thinking (Garrison, Anderson, & Archer, 2001), and collaborative knowledge construction (Gunawardena, Lowe & Anderson, 1998; Zhu, 1998). Empirical studies within the field of second and foreign language (L2/FL) learning, which is defined as the processes by which people acquire or learn one or more second languages, have shed light on the efficacy of CMC from linguistic, pedagogical, cognitive and socio-affective aspects of language learning (Chapelle, 2004, 2007, 2009; Warschauer & Kern, 2000; Warschauer, 1996b, 1997).

The relatively new learning methodology known as a blended approach has been extensively studied in recent years with regard to combining CMC with face-to-face instruction. In this thesis, it is intended as an umbrella term to refer to any kind of study where CMC has been used in conjunction with face-to-face education. Most reports consider CMC, on the one hand, to be beneficial to L2 and FL learning in terms of participation and interaction (Barrs, 2012; Bump, 1990; Fitze, 2006; Freiermuth, 2002; Warschauer, 1996b; Yildiz & Bichelmeyer, 2003); motivation and attitudes (Beauvois, 1995; Gonzalez & Venezuela, 2003; Skinner & Austin, 1999; Warschauer, 1996c); language competencies (Cavallaro & Tan, 2006; Smith, 2004; Sotillo, 2000; Warschauer, 2001); and social or cognitive presence (Yildiz, 2009). On the other hand, there is some evidence that CMC may cause anxiety and frustration in non-native language learners with limited linguistic ability who find themselves confined in this
kind of text-based online discussion settings (Hara & Kling, 2000; Lang, 2000; Shin, 2006).

A combination of CMC with face-to-face instruction is of particular significance in teaching English as a foreign language (EFL) in Taiwan. As technology and language have been two major focuses of educational reform in the Taiwanese higher education (Chen, 2002), computer-assisted language learning (CALL) and web-based learning have gained popularity among English language professionals and are perceived as a panacea or silver bullet in fostering students’ language competencies. Although a wide variety of technologies have been incorporated into English instruction, extremely restricted interaction with CALL occurs in the form of closed drills and quizzes, which merely increase a certain level of textual and technological interactions. The online component is seen as simply an after-class supplement that allows students to access more self-contained activities to use for language practice. Students, particularly non-English majors, remain incapable of expressing their own opinions in English in order to engage in real communication. This inadequacy indicates a need to employ the blended approach by integrating CMC into face-to-face instruction.

However, improving the communicative competence of non-English major students with the assistance of CMC seems to be a challenge for language instructors. This is especially so coupled with the EFL context, and the educational and sociocultural features in Taiwan. In the following section, background information about English
language teaching (ELT) and the challenges facing language instructors in Taiwan are discussed, ELT in higher education in particular, as the context of this research relates to non-English major programs at the Taiwanese universities.

English is the most commonly used foreign language in Taiwan. In the past decades, English was a mandatory subject from junior high school all the way to the first year of university. The aim of English instruction was to help students fulfil course requirements and to pass entrance examinations to the next level of schooling. Influenced by the traditional Grammar Translation method (GTM), English instruction placed a heavy emphasis on teaching and learning vocabulary and grammar. After several educational reforms, English was added to the subjects studied in elementary schools. Influenced by the Communicative Language Teaching (CLT) principles, the goal of English language teaching gradually changed from the development of linguistic competence to one of communicative competence (Chern, 2002). At the same time, the interest in learning English continued to increase; for example, it became a requirement for prospective employees to prove their English abilities by passing recognised English proficiency tests. At present, the requirements stemming from educational policy, societal demand, and career development all contribute to a craze for English learning in Taiwan (Chang, 2007; Liao, 2005).

At the university level, in 1993 the Ministry of Education (MOE) mandated Freshman English to be one of the foreign language courses required for the first year non-English
majors, as an attempt to make way for other foreign languages to better meet the needs of the students. As a result of the 1993 mandate, English was changed from a required subject to an elective one. Universities were given more autonomy over their curricula and the instructors gained more control over their teaching (Huang, 1998; Shih, 2000). Currently, Freshman English at most universities still remains a required course in order to better prepare students for career fields. In most universities, the number of English credits has been reduced to six hours weekly, which employ a standardised curriculum with uniform materials, course objectives, and midterm and final exams. Students are required to pass the General English Proficiency Test (GEPT) at the intermediate level before graduation. The current goal of Freshman English has changed to one of preparing non-English major freshmen to reach a higher level in a nationwide general English proficiency test.

As far as the instructional focus is concerned, reading and writing is still the core, with only a few programs focusing on skills integration. According to Liu (2005), the traditional GTM and Audio-lingual method (ALM) are being used most among EFL instructors. In a traditional English class, the instructor uses Mandarin Chinese (L1) to explain the grammar and the meaning of the English texts. The students are asked to translate English sentences into L1 to ascertain their comprehension. The ALM is used for drill practices in pairs or in small groups by following the audiotapes or the instructor, to help the students develop their listening and speaking skills. The CLT approach has been recently accepted to improve the communicative competence of
students. In a CLT-oriented classroom, students learn through communication how to be engaged in interactive and communicative learning tasks (Larsen-Freeman & Freeman, 2008). Nonetheless, according to a Taiwanese government-sponsored research report (Huang, 1998), most non-English major freshmen would prefer fewer class hours in the language. This finding indicates that offering Freshman English at most universities might not have been successful in motivating students to want more of these courses.

Despite the prestige of English being recognized by both teachers and students, ELT in the Taiwanese universities faces a dilemma. On the one hand, the traditional approach to ELT in an English classroom, which emphasizes structural knowledge, the use of translation and rote memorization, has led to a one-way, teacher-led interaction. Although students obtain a certain level of linguistic knowledge, they remain unable to employ what they have been taught. This system allows little room for students to discuss, reflect and internalise their knowledge. On the other hand, the western-originated CLT approach with a focus on interactive oral communication and language use (Evans, 1999) creates a conflict with the Taiwanese learning culture. Taiwanese freshmen, who are accustomed to the lecture teaching style, show a resistance to the CLT approach. In addition, the CALL approach in Taiwan which centres primarily on form-focused instruction to promote mastery of linguistic knowledge has been found to be of limited use in producing communicative competence.
In addition to the pedagogical challenges, problems about the educational system also need to be resolved. Students are placed in large English classes, normally 50 to 60 students in a class. Big class size makes teaching unmanageable and also reduces the quality of learning; it has resulted in little interaction, if any, with only limited physical interaction among students and between the instructor and students (Locastro, 2001), as well as providing minimal exposure to the language and insufficient practice. Besides that, English education is still built upon a test-oriented system that is biased toward acquiring the right answers. The teaching focus continues to rely predominantly on test-driven activities about the accuracy of language forms. All these factors indicate that there is a need to figure out a way to improve teaching approaches for the current non-major English programs in higher education in Taiwan. One such innovative approach is the previously mentioned blended approach, which integrates online discussion via CMC tools with face-to-face English instruction.

1.2 Statement of the Problem

Online discussion has been largely utilised in higher education as an effective medium in combination with face-to-face instruction. It has been argued that online discussion based on constructivism or socio-constructivism provides L2 and FL learners flexible time frames for target language practice through authentic interaction in a less-threatening online learning community. However, studies have been mainly conducted in the context of teaching English as a Second Language (ESL). The ESL context is very different from the EFL context because most Taiwanese university
students do not live in an English-speaking environment; they have minimum exposure
to the target language in their lives and can only practice to some extent during English
classes. For this reason, empirical studies relevant to the Taiwanese EFL context about
how the blended approach contributes to EFL classroom instruction are undoubtedly
needed for further exploration.

Previous research has shown that the integration of online discussion into face-to-face
instruction may lead to different effects on learning owing to different cultures, learning
contexts, discussion tasks, learners’ age and learning experiences (Chang, 2006; Sotillo,
2000; Vrasidas & McIsaac, 1999; Warschauer, 1996a; Yang, 2006a; Yildiz &
Bichelmeyer, 2003). Some studies relevant to the Taiwanese context have examined
language complexity (Yang, 2006a) or discourse functions (Liang, 2010); some have
studied students’ attitudes and perceptions (Chen, 2005; Yang, 2006b) while others
have investigated participation, interactivity, and critical thinking (Chang, 2006; Chen,
2005; Chiu, 2009). Research has shown positive attitudes from EFL students towards
using online discussion.

However, the discussion pace via synchronous CMC in class is chaotic and
overwhelming (Yang, 2006b) while discussion via asynchronous CMC out of class
creates a sense of isolation (Branon & Essex, 2001; Haefner, 2000). Online discussion
in empirical research is mainly employed as a whole-class discussion or out of class
activity. Little attention has been given to the interactive process of the EFL students in
group-based discussions within both formal and informal learning contexts. Therefore, there is a pressing need to rethink the integration of online discussion through different blends by employing different discussion tasks in different learning settings.

The majority of the aforementioned studies in the EFL context were conducted in English majors’ classes (Chen, 2005; Chiu, 2006; Kung, 2004; Yang, 2006a). Less attention has been given to investigating how the EFL university non-English majors interact with their class members and the instructor to jointly accomplish blended face-to-face and online discussions. To maximise English learning for non-English majors, blended discussions allow students to be exposed to a learning environment with various modes of learning that meets the needs of students with different learning styles. There has not yet been an investigation into the interactive processes of meaning construction engaged in by the EFL non-English freshmen as they become involved in different types of online discussion tasks. Finally, the question of discovering key factors that might influence English learning in a context of blended face-to-face and online discussions remains to be explored. Research in this area which focuses on this specific scope within the Taiwanese context is particularly scarce and insufficient.

1.3 Purposes of the Research

There were three main purposes of this research:

1) to extend an understanding of how Taiwanese students, especially non-English majors, learn in blended face-to-face and online discussions for English learning;
2) to investigate the specific functions of student interaction and processes of meaning construction in three blended discussions -- in-class small group discussion, in-class online group critique and out-of-class online group critique;

3) to explore how the blended discussions have contributed to English learning in terms of students’ perceived learning gains and influential key factors.

This research employed a case study using a combination of quantitative and qualitative methods. Participant observations, focus group interviews, online discussion logs and a questionnaire survey were used to serve these three research purposes.

Qualitative findings were integrated to serve the first purpose of generating a comprehensive understanding of how students learn dynamically in blended face-to-face and online discussions. Three groups were tracked over eleven weeks to explore their dynamic learning in three discussion tasks. Qualitative findings derived from observation data and online discussion logs were validated with interview data, and were used to serve the second purpose. Two coding systems adapted from the literature were applied to analyse students’ face-to-face and online interactions (Bales, 1950; Zhu, 1998). To serve the third purpose, a general picture about students’ perceptions of the blended discussions for EFL learning was generated from quantitative questionnaire data to identify students’ learning gains and was validated with interview data. Multiple sources of data from group observations, focus group interviews, the questionnaire and online discussion logs were obtained to explore key factors that influence English learning in the blended discussions.
1.4 Research Questions

This research addresses the following overarching research question:

How do EFL students learn and perceive from engaging in blended face-to-face and online discussions?

To address this research question, the researcher first attempted to broadly explore EFL students’ learning with regard to the aspect of interaction. The first sub-question was formulated as:

1) How do EFL students learn in blended face-to-face and online discussions?

With regard to learning in different blended discussion tasks, the researcher intended to specifically examine students’ interactions and the processes of meaning construction within and between groups in three discussion tasks. The second and third sub-questions were:

2) How do EFL students interact when performing three different discussion tasks?

3) How do EFL students construct meaning while engaged in online discussions?

To obtain insights into English learning in blended discussions, students’ perceptions of the blended discussions and key factors influencing English learning were investigated. The fourth and fifth sub-questions were:

4) How do EFL students perceive their learning gains related to participating in blended
5) What are the key factors influencing learning in blended discussions?

**1.5 Significance of the Research**

This research is of paramount significance to develop a dynamic model of blended English learning informed by sociocultural theory (SCT) that provides various modes of learning in a CMC-based environment for the enhancement of EFL learning, especially for non-English majors in Taiwan. A more detailed discussion of SCT is provided in Chapter 3 including such key concepts as mediation, interaction, zone of proximal development, and scaffolding. This model would benefit teachers of EFL in guiding CMC-based classroom instruction and interactive tasks design, and would encourage future applications of CMC in the Taiwanese EFL context. The findings generated not only contribute to empirical evidence in the EFL context, but also to existing L2 research.

Given the increasing use of online discussion to support classroom instruction in the L2 context, the present research adopts an innovative strategy to incorporate online discussion using a discussion forum with face-to-face English instruction both inside and outside classrooms in the EFL context. In order to examine interactions of EFL students on the forum, this research develops a coding scheme for measuring functions of interactions which is particularly applicable to EFL students in Taiwan. This research
contributes a well-developed coding scheme to future studies which intend to conduct research in other educational courses in Taiwan.

By implementing this dynamic model through a set of online discussion tasks, this research contributes to an understanding of the influence of blended discussions in order to apply changes to improve the existing traditional English classroom culture. An investigation into students’ perceptions informs teachers of EFL about the benefits of blended discussions and the main factors that influence learning in this blended context. This research provides research-based evidence for Taiwanese language teachers, educators and policy makers to make the most appropriate decisions on curriculum reform; it also fills the gap of insufficient empirical data in this area that exists in the literature.

Regarding the challenge presented by big classes, the use of an embedded case study with mixed methods offers methodological significance in the Taiwanese EFL context. This research strategy enables in-depth observations across groups within a case and an overall picture of the case to be yielded from the results of the selected groups. The quantitative method in this research complemented, triangulated, and expanded on the qualitative methods, and they jointly contributed to a more comprehensive understanding of the topic under study. The current methodological design is significant in supplying evidence that the two methods can be mixed utilising multiple instruments in CMC-based EFL empirical research.
1.6 Organization of the Thesis

This thesis is presented in nine chapters. This first chapter introduces the background of this research and a statement of the problem, followed by an outline of the purposes of the research, research questions and significance of the research.

Chapter 2 provides a review of the literature that is relevant to this research. It first reviews the development of CALL in L2 and provides a description of CMC including synchronous and asynchronous modes. Empirical research into online discussion is additionally delineated to understand the significant benefits to ESL and EFL learning, followed by a review of collaborative learning, the blended approach and their benefits for learning. As language learning in the Taiwanese context is very much under the influence of Confucian Heritage Culture (CHC), a discussion of the Chinese culture of learning and communication is included.

Chapter 3 is organised around the presentation of the theoretical framework adopted in this research. First, the influence of sociocultural perspective on L2 learning, the rationale of a sociocultural perspective, four core constructs of sociocultural theory (SCT), referring to mediation, scaffolding, interaction and the Zone of Proximal Development (ZPD), and the application of these four key constructs to L2 learning are presented. This is followed by a description of the rationale of a dynamic framework of blended English learning. This framework is informed by these four key constructs of
SCT and developed to maximise dynamic interactions for English learning in a blended face-to-face and online learning context.

Chapter 4 describes the methodology and methods used in this research. It starts with a discussion of case study design and the rationale for embedded case study design, followed by a detailed discussion of the mixed methods approach and the specific methods and instruments used in this research. The research design is presented with regard to data collection procedures, participants, settings, and course materials and tasks. Following this section, data analysis procedures are described in detail, after which ethical considerations are addressed.

Chapters 5, 6 and 7 report the findings of this study. Chapters 5 and 6 report the dynamics of student learning performance in three blended discussion tasks. It commences with background information of the students in the three observation groups, and subsequently presents the findings by describing the processes of group functioning and meaning construction, and student participation and interaction in these three tasks. Additional findings of teacher-student interaction in blended discussions and in a traditional English class are also described in Chapter 6. Chapter 7 reports students’ perceptions of blended discussions for EFL learning by employing mixed methods to collect data, firstly from qualitative focus group interviews and secondly from a quantitative questionnaire survey. A total of 11 themes associated with students’ perceptions are identified in the interview and questionnaire data.
Chapter 8 presents a discussion of the findings reported in Chapters 5, 6 and 7 in order to answer research questions. The findings presented in Chapters 5 and 6 are analysed to answer Sub-research questions 2 and 3. The discussion of Sub-research questions 2 and 3 is further addressed to answer Sub-research question 1. The findings presented in Chapter 7 are viewed in terms of answering Sub-research question 4, and the findings reported in Chapters 5, 6 and 7 in relation to major factors influencing learning are used to answer Sub-research question 5. It is necessary to analyse these five sub-research questions before addressing the overarching research question.

Chapter 9 summarises the main findings in order to answer the overarching research question. Conclusions are drawn and the limitations of the research project are discussed. The implications of this research and recommendations for educational practice and further research are also provided.

1.7 Summary

This chapter outlined the background of the research, and provided a statement of the problem. It presented the research purposes, research questions, and the significance of the research as well as described the organisation of this thesis. The next chapter will present a detailed account of the previous theoretical and empirical research in L2 that is relevant to this research with regard to CALL, CMC, and a blended approach, which combines face-to-face and online instruction.
CHAPTER 2
LITERATURE REVIEW

This chapter reviews the literature that is relevant to this research, whose scope focuses on learning EFL through blended face-to-face and online discussions in a Taiwanese university context. The first section presents a review of the applications of CALL and CMC into the L2 learning context when a computer is utilised. After this basic overview, section two examines the application of online discussion in both the areas of English language teaching (ELT) and non-ELT to determine what has been previously investigated by other studies and to identify the areas in which research is lacking. When a discussion task is utilised, collaborative learning as a strategy for online discussion and its benefits for L2 learning is also reviewed.

Section three addresses the emergence of a blended approach that combines face-to-face and online forms of instruction in the educational context. Since learning a FL includes some degree of intercultural learning between the target language and its native culture, section four describes the Chinese culture of learning and communication, offering significant insights into the Taiwanese cultural and educational values which exist in the context of this research. This literature review is organised into these four sections to provide a holistic understanding of a blended approach of face-to-face and online discussions to EFL learning in Taiwan.
Chapter 2 Literature Review

2.1 Application of CALL in L2

Computer technologies have been adopted for language teaching and learning to maximise the potential for language development for decades. The study of the applications of the computer technologies in language teaching and learning is known as “computer-assisted language learning” (CALL) (Bygate, Skehan, & Swain, 2001; Chapelle & Jamieson, 2008; Chapelle, 2001), and is also termed “technology-enhanced language learning” (Bush & Terry, 1997). CALL has been widely applied to L2 education, which includes both subconscious acquisition processes and conscious learning of the target language. L2 learning in this research refers to the learning of both L2 and FL learning which involves the same fundamental processes in different situations. This section intends to provide a better understanding of CALL as the context of this research is relevant to the use of networked computers both inside and outside the classroom; a necessary discussion of the application of the computer in L2 is provided in greater detail below.

The development of technology expands L2 research to include new contexts, new literacy, new genres, new identities, and new pedagogies (Chapelle, 2004; Warschauer, 2004). As a result of changes in technologies and pedagogies of language learning, CALL has also undergone a significant transformation. Various attempts have been made to establish a CALL typology and to document the history of CALL (Bax, 2003; Chapelle, 2002; Davies & Higgins, 1982, 1985; Levy, 1997; Warschauer, 1996b, 2004). The research and practice of L2 pedagogies have been applied to CALL in different
periods. This section is categorised based on different views of language learning theory (Warschauer, 2004) to re-examine the history of CALL, including a comparison of different categories of CALL and previous research on CALL practice in L2 in the interest of providing a comprehensive understanding of CALL.

2.1.1 Theoretical Approaches to CALL

Behavioural Approach to CALL

Early CALL was based on the basic concepts of behaviourism that existed in the 1960s. According to Luke (2006), behavioural theorists maintain that students learn language through a process of habit formation based on stimulus-response pairs. Appropriate responses are encouraged by positive reinforcement or correction. Practice makes learning perfect through repetition, leading to the use of drill-and-practice exercises of discrete skills. The role of the teacher is to organise information, decide what is to be taught, strengthen students’ responses and address specific learning outcomes. Students are expected to master knowledge and are evaluated in terms of whether their skills have advanced; language learning is focused on gaining accuracy of the linguistic forms.

The behavioural approach to CALL emphasizes structural linguistics, viewing the role of the computer as a tutor (Warschauer, 2004) in that it has the capability to evaluate student input in a directive way (Levy, 1997). A variety of CALL applications rely on repetitive activities such as drills, practice, tutorial explanations and corrective feedback
(Warschauer, 1996b). Although CALL-based drill-and-practice activities offer a number of advantages (McCarthy, 1994), merely a certain level of textual and technological interactions are increased while students interact with reading and writing materials through the computer. This approach is criticised for restricted interaction among learners and its lack of problem-solving strategies and communicative tasks. At present there is an increased concern about what happens inside the learner’s brain which has resulted in redirecting the behavioural approach to a cognitive approach to CALL.

**Cognitive Approach to CALL**

The cognitive approach to CALL is based on cognitive/constructivist views of learning. Within the cognitive paradigm (Chomsky, 1986; Krashen, 1985; Spada & Lightbown, 2002; Swain, 1985), language learning is a cognitive process of internalizing an abstract set of linguistic rules within an individual’s mind. The cognitive perspective focuses primarily on the internal mental constructions and accounts for the information processed in learners’ brains. It investigates how individuals construct knowledge and understanding through interaction (Luke, 2006) which draws attention to language that facilitates comprehensible input and output. Learners are viewed as active agents who transform input in unique ways in order to gain understanding (Luke, 2006).

The computer is used as a tool to practice skills in a simulated environment (Warschauer & Kern, 2000; Warschauer, 1996b) that augments human capabilities in a supplementary and less directive way (Levy, 1997); it takes on a guiding and
questioning role, allowing “learners to utilize their existing knowledge to develop new understandings” (Warschauer & Kern, 2000, p. 9). The function of cognitive CALL is to provide an opportunity for language input and output when the student interacts with the computer (Chapelle, 2009). Text reconstruction, word processing, concordances, multimedia and games can be used to foster mental processes through form-focused interaction (Warschauer, 1996b). Computer-based analytic and inferential tasks provide more choices of activities that students can use to control and interact with the target language. These activities aim to provide intake and facilitate comprehensible output, rather than have students discover the right answer. However, the relevant computer programs are not yet truly interactive within a closed system and do not provide genuine negotiation of meaning (Warschauer & Kern, 2000).

**Socio-constructive Approach to CALL**

The socio-constructive approach to CALL is based on the socio-cognitive view of language learning informed by social constructivism (Lantolf & Thorne, 2007; Leontiev, 1981; Vygotsky, 1978; Wertsch, 1991). This perspective of learning focuses on how individuals construct meaning from their own experiences within situated contexts of social interaction. Language learning is an interpersonal process situated in a social and cultural context. Language learners are assumed to be cognitively and socially capable of conceiving external messages based upon their unique experiences and can interpret messages from self-expression (Chang, 2007). They become competent to gain
important cultural or content knowledge beyond linguistic form and further develop their thinking skills.

The socio-constructive approach to CALL utilises hypertext, hypermedia and the Internet to create an authentic learning community for language practice. Computer technology is used as a medium for interactive communication to support the active involvement of students in the learning process. The function of socio-constructive CALL is to provide contexts for social interaction and to facilitate access to existing discourse communities (Chapelle, 2009). This socio-constructive approach provides a basis for this research to develop an interactive CALL community which enables communication in L2. Such interactive communication is particularly needed for Taiwanese EFL students.

Willis, Stephens and Matthew (1996) cited in Luke (2006, p. 23) maintains that “computer-based technology supports learning in constructivist and sociocultural settings by providing learners with multiple ways to interact with and process information, experience multiple media formats, create and distribute student work, and communicate with other learners and experts from across the globe”. However, cognitive demands might increase while communicating in such interactive communities, particularly for lower ability learners who are incapable of accurately expressing their experiences and opinions (Warschauer & Kern, 2000).
2.1.2 A Comparison of Approaches to CALL

Early CALL was classified based mainly on the types of CALL programs. Warschauer (1996b, 2004), based on L2 pedagogical methods, classified CALL into three historical phases: behaviouristic/structural CALL, communicative CALL and integrative CALL. Following GTM and ALM language teaching techniques, the objective of behaviouristic CALL was accuracy. Influenced by the CLT, communicative CALL placed its focus on meaning and fluency. More specifically, Chapelle (2002) maintained that the objectives of communicative CALL were firstly focused on interaction with the target language to foster acquisition based on the Input Hypothesis (Krashen, 1985) and Output Hypothesis (Swain, 1985), and secondly on interaction with other people to trigger negotiation of meaning based on the Interaction Hypothesis (Long & Porter, 1985). The purpose of interaction is to provide intake and facilitate comprehensible output. Interaction draws attention to language and triggers noticing on linguistic form (Lamy & Hampel, 2007).

Integrative CALL attempted to integrate interactive technologies, multimedia and the Internet into a number of approaches such as task-based, project-based and content-based approaches. Learners were situated in authentic environments to promote integration of language skills. Warschauer (2004) argued that these three phases did not occur in a rigid sequence. As each new stage emerges, previous stages continue and any of the phases can be combined to use for different purposes. However, Bax (2003) criticised Warschauer’s analysis in terms of the problematic chronology and unclear
criteria in the three categories. He further proposed three approaches of CALL based on the actual types CALL activities in use: restricted CALL, open CALL and integrated CALL.

The web facilitated the emergence of new learning approaches. Felix (2002) indicated three approaches to web-based learning: the constructivist approach, the problem-solving approach and collaborative learning approach. She argued that the benefits of web-based learning were not limited to practising and reinforcing language structures, but especially suited for creation of real-life tasks. Tasks were contextualised, authentic and meaningful in authentic settings. These approaches emphasised the agency of the learner to solve problems and to construct meaning through social interaction in dynamic, situated learning environments. Although the development of CALL has been described differently, computers are used for content delivery, self-access learning, and task-based group activities either in general language classrooms, networked computer laboratory or distance learning. When the technology becomes invisible or normalised, it can be said to be truly integrated into teachers’ everyday practice (Bax, 2003).

To summarise, the computer has played multiple roles in L2 teaching and learning. It originated as a tutor for language drills and skill practice. With the advent of multimedia technology, it changed to function as a tool for integrated skill practice to increase output. With the development of computer networks, now it serves as a medium of
communication. There is a growing trend towards a CALL approach based on the constructivist and sociocultural perspectives to facilitate collaboration by problem solving, interactive construction of meaning and exchanges of opinions in a task-based CALL environment. CALL can offer a constellation of ways by which students learn via computer or the Internet to enhance language skills or communication as discussed in the following section.

2.1.3 Previous Research on CALL Practice in L2

Numerous studies have been devoted to the use of CALL in L2 education. CALL has been found to be of benefit in providing realistic communication, increasing authenticity and learner autonomy, and helping to engage interaction in order to address the various learning styles of students (Kataoka, 2000). The computer is not considered to be a substitute for a human teacher, but rather a powerful tool to enhance L2 learning.

A variety of CALL studies that examine language outcomes have reported that CALL-based activities improve the fluency of four macro language skills and the accuracy of the linguistic forms with regard to vocabulary, grammar, error correction and text reconstruction (Chapelle & Jamieson, 2008; Chapelle, 2002). Another variety of CALL studies with a focus on process investigate interaction, language modification, language features, discourse functions, motivation and gender (Chapelle, 2002). Empirical CALL research examines both the outcome and the process of L2 learning, as provided in detail in Appendix 1. The increasing popularity of CALL has also inspired
EFL researchers and educators in Taiwan to examine both language outcomes and learning processes in the EFL teaching and learning.

Computer-based listening provides a large number of activities or exercises to support listening comprehension which is enhanced by the blending of graphics, texts and videos in multimedia environments (Hui, Hu, Clark, Tam, & Milton, 2007; Jones, 2009). Hoven (1999) maintained that computerised listening activities provided a learner-centred environment with various levels of learning support that could address different learning styles. Appropriate and meaningful CALL listening activities consider the affective dimension as well as cognitive and linguistic dimensions of difficulty that help L2 learners develop their listening strategies (Chapelle & Jamieson, 2008).

Speaking practice in CALL environments allows pairs or groups of students to converse with each other and enables individual students to record their voice, and practice their pronunciation, intonation and stress by the use of speech recognition technologies (Hubbard, 2009), which analyse learners’ language and provide visual feedback. CALL speaking activities provide learners with the opportunity for oral practice pertaining to words, phrases and sentences and help develop fluency (Chapelle & Jamieson, 2008). CALL-based speaking programs are intended to encourage EFL learners, who are reticent in speaking English face-to-face, to speak without feeling embarrassed by their errors (Kataoka, 2000).
However, this variety of CALL mainly offers interaction with the computer and minimal interaction with other students. The web increases access to a wealth of authentic audio and video for effective listening or speaking practice (Shawback & Terhune, 2002; Sun, Chang, & Yang, 2011). Networked audio applications provide interactive communication for immediate speaking practices (Sun, 2012). Spoken communication for meaning negotiation produces a considerable amount of comprehensible output that facilitates L2 learning and enhances communicative competence.

It has been recognised that computer programs can assist reading development by offering variety in reading formats, by using images, by presenting supplemental aids, and by providing authentic materials (Kataoka, 2000). CALL reading activities provide opportunities for interaction with the texts which are made salient to draw learners’ attention to specific aspects of the language (Chapelle & Jamieson, 2008). Computer-based reading is said to improve reading comprehension, promote reading fluency, develop intrinsic motivation for reading, and reinforce grammar and vocabulary through the aids of text reconstruction, text glosses and the web (Abraham, 2008; Chun, 2006; Cobb & Stevens, 2009; Johnson & Heffernan, 2006; Shawback & Terhune, 2002).

The use of computers is particularly proven to have positive effects on both the quality and quantity of writing in terms of writing attitudes, text length, quality and revisions
Early work about writing in CALL focused on the use of word processing to support the writing process during which vocabulary and grammar were also developed (Hubbard, 2009). Web-based applications to promote writing have opened up additional opportunities for written communication inside and outside the classroom (Chapelle & Jamieson, 2008; Pennington, 2004). CMC tools greatly contribute to text-based collaborative writing. Students develop writing and thinking skills through interaction with others by interpreting, commenting and expressing their thoughts in a language community as discussed in Sections 2.2.2 and 2.2.3 of this thesis.

In addition to the positive effects on aspects of L2 learning that are mentioned above, research further shows that L2 learners have positive attitudes towards CALL (Chou et al., 2008; Hwang, 2008; Lim & Shen, 2006; Tsai, 2006). Video-related activities in particular increase motivation and satisfaction as well as boost students’ confidence (Chapelle & Jamieson, 2008; Johnson & Heffernan, 2006; Shawback & Terhune, 2002). Online or web-based learning also increases learner autonomy, facilitates interpersonal communication, lowers learning anxiety, improves engagement and interaction, increases participation, enhances acquisition of language knowledge, develops language awareness, promotes critical thinking, and builds learning experience (Chou et al., 2008; Chu, 2011; Eneau & Develotte, 2012; Eynon, 2000; Johnson & Heffernan, 2006; Tsai, 2006). Early use of CALL was limited to cognitive language proficiency while today’s technology, theory and pedagogy favour the development of interpersonal
communication skills. The existing empirical results show that CALL is conducive to L2 learning.

CALL has also gained popularity among English language professionals in fostering students’ language competencies in Taiwanese higher education. The CALL approach in Taiwan, however, centres primarily on form-focused instruction to develop mastery of linguistic knowledge and skills. This has been found to be of limited use in producing communicative competence. This concern has prompted the inquiry relevant to this research about how to maximise EFL teaching and learning by adopting a socio-constructive approach that employs collaborative tasks to promote students’ dialogic interaction. CALL-based collaboration in particular by the use of CMC focuses more on construction of meaning than the accuracy of grammar and sentences. Such CMC-based collaboration creates opportunities for real applications of the target language through communication; a discussion of CMC is presented below.

### 2.1.4 Computer-mediated Communication in CALL

CMC has been described from diverse disciplinary perspectives. First coined by Hiltz and Turoff (1978), CMC was originally defined as “the process by which people create, exchange, and perceive information using networked telecommunications systems that facilitate encoding, transmitting, and decoding messages” (December, 1996). This technical-oriented definition with a focus on electronic communication has been supported by a number of researchers in education. A more open-ended definition
(Herring, 1996) describes CMC as “communication that takes place between human beings via the instrumentality of computers” (p. 1). Similarly, Luppicini (2007) provided an extensive definition in which he regards CMC as “communications mediated by interconnected computers between individuals or groups separated in space and/or time” (p. 142). CMC is technically viewed as a tool or medium used to transmit and receive messages via computers.

The fast-changing CMC tools need to be supported by theory and pedagogy as the essential context for effective use of technology. A pedagogical shift evolving from cognitive to sociocultural approaches to language development has moved the view of CMC as a tool or a medium to one that emphasizes the process or interaction between humans. A human-oriented description of CMC can be defined as all forms of computer-supported interaction or communication between people or as an environment in which people interact with others via network computers (Nguyen, 2008). In reference to language learning, Warschauer and Kern (2000) refer to CMC as a language community which “allows language learners with network access to communicate with other learners or speakers of the target language in either asynchronous or synchronous modes” (p. 11-12). CMC can be viewed both as a meditational tool and as a communication process.

Different from the traditional form of face-to-face communication, CMC displays its unique characteristics in terms of forms and functions. Warschauer (1997) identifies
five distinguishing features of CMC: text-based and computer-mediated interaction, many-to-many communication, time-and-place-independent communication, long distance exchanges, and distributed via hypermedia links. Zhao et al. (2005) also analyse CMC technology and synthesize four characteristics: temporality (synchronous vs. asynchronous), spatiality (interpersonal distance), identity (anonymity), and modality (oral vs. written). Nguyen (2008) further classifies its main characteristics into three main categories: technological, social/cultural, and linguistic features of CMC which are described in greater detail below.

In terms of technological features, a computer network enables communication independent of time and space because CMC provides communication without temporal and spatial constraints. Besides, CMC affords a variety of media, combining text, audio and video. These multiple modes make it possible to accommodate learners with different learning styles. Additionally, CMC enables multi-dimensional communication including one-to-one, one-to-many or many-to-many. The electronic nature of CMC establishes a collaborative context to foster language development. With regard to social and cultural features, the impersonal nature of CMC yields both negative and positive results for language learning. On the one hand, misunderstandings and misinterpretations are likely to occur because of the lack of visual and auditory cues such as gestures and facial expression. On the other hand, impersonality creates an interpersonal distance between interactions that provides more time for cognitive and linguistic reflection.
Murray (2000) identifies four main linguistic features of CMC. First, CMC combines both spoken and written language forms; CMC exchange is as similar to authentic communication as a typed conversation. Second, CMC provides simplified expressions, including shorter sentences, abbreviations, simplified syntax, the acceptance of surface errors, and the use of symbols and emoticons. Third, CMC provides unique conversational structures with regard to norms and turn-taking strategies that require more explicit expressions. Finally, conversations are more cohesive and coherent through topic threads in CMC. These characteristics show that CMC is far beyond a passive and neutral tool; its technological, social/cultural and linguistic attributes are well suited to the pedagogical needs of language learning.

CMC has various affordances, namely temporal, social, psychological, linguistic, material and individual. As Levy & Stockwell (2006) state, “technology plays a major role not only in the choice of language used, but also the types of messages that can be conveyed, the social relationships that can be formed, the psychological pressure that participants may feel, as well as the choice of tool in conducting the communication” (p. 97). These affordances are believed to support the use of CMC for the promotion of social interaction, language genres, acquisition of new literacy skill and collaborative learning (Chen & Looi, 2007; Ng & Cheung, 2007; Vess, 2005; Wang & Woo, 2007). Recently, much research about CMC has been conducted from a sociocultural perspective. As CMC is beyond a tool or a medium, it also serves as an engine of social
interaction that provides a space within which social relations occur. Individuals and
groups construct symbolic processes in this space through the use of CMC tools (Jones,
1995) in distance learning, formal or informal learning as well as blended learning.

In view of the aforementioned characteristics and affordances of CMC, it manifests that
CMC plays a significant role in L2 research because opportunities are provided for
practical applications in real contexts. Students develop their L2 competence by
applying the linguistic knowledge that they have learnt and by interpreting their ideas
and thoughts in L2 while they are engaged in CMC-based collaborative tasks (Chapelle,
2007). It is believed that CMC-based collaboration, informed by a sociocultural
perspective which underpins this research, may have the potential to enhance Taiwanese
EFL students’ communicative competence when learning L2 in a collaborative context.
Therefore, a necessary explanation of two main modes of CMC is presented below to
understand their characteristics and to examine their applications in the L2 context.

2.1.5 Synchronous and Asynchronous CMC

CMC has been divided into two basic modes: synchronous CMC (SCMC) and
asynchronous CMC (ACMC) (Abrams, 2006; Chen, 2005; Johnson, 2006; Shin, 2006;
Steeples et al., 1996). SCMC and ACMC have their own characteristics that
complement each other to enhance language learning. An appropriate combination of
SCMC and ACMC is also likely to significantly promote engagement and collaboration
through interactive communication (Huang, 2006).
SCMC in the form of chat rooms, video conferencing, and instant messaging provides real-time communication. The SCMC mode can be text-based or audio/video-based and allows interlocutors to read or listen to messages and respond immediately, similar to the dynamics of face-to-face discourse. However, the synchronicity of SCMC may be considered to be the downside of this communication mode because all participants are required to access the network at the same time outside the classroom. This can be difficult if there are differences in class times and time zones. Such real-time spoken or written conversations in L2 via SCMC technologies might be a challenge in particular for Taiwanese EFL students with limited English proficiency (see Sections 7.1.6 and 8.5.4).

ACMC, such as e-mail, newsgroups, bulletin boards and discussion forums, enables delayed-time communication where participants are not required to access online at the same time. Interaction does not need to be simultaneous because interlocutors communicate by posting free of time and space constraints. This mode of communication is normally text-based and allows students more time to read, understand, reflect and respond to the posted written messages. This feature of ACMC seems to meet the need of Taiwanese EFL students with limited English proficiency. Text-based CMC is most common in educational contexts because the textual nature is more persistent, visual and archivable than audio or video-based CMC.
The usefulness of SCMC and ACMC has been investigated and debated in the L2 context over the past decades. The effects of both SCMC and ACMC facilitate inter-cultural and intra-cultural exchanges and can be implemented in or after class. Nguyen (2008) explains that inter-cultural CMC refers to tele-collaboration with participants from at least two countries or from heterogeneous communities. Conversely, intra-cultural CMC involves participants who share a native language or are from a homogeneous culture. In a growing number of studies on CMC, research conducted in the ESL context centred mainly around inter-cultural exchange (Shin, 2006; Skinner & Austin, 1999; Sotillo, 2000; Warschauer, 1996a; Yildiz, 2009; Yildiz & Bichelmeyer, 2003) while studies in the EFL context were primarily focused on intra-cultural exchange (Chang, 2006; Chen, 2005; Chiu, 2009; Kung, 2004; Liang, 2010; Yang, 2006a).

Among a variety of CMC tasks, computer-mediated discussion (CMD) is a common form that can be used either synchronously or asynchronously. CMD is widely used to increases learners’ opportunities for exchanges of perspectives in an interactional community, as evidenced by the existing empirical studies presented in the following section. It is of paramount importance for language practice in particular in the EFL context.
2.2 Application of Computer-mediated Discussion

Computer-mediated discussion can also be termed in general as online discussion, which refers to a form of virtual discussion conducted by participants about particular topics. Flores (1990) argues that online discussion can provide “ideal public spheres for students who feel marginalized in the classroom” and create a “community in which each and every student has a voice and can engage in dialogues with each and every member of that community” (p.109). Online discussion has been first widely applied to general education and then to language learning by employing content analysis, an analysis tool of online discussion, which will be specifically described in Section 2.2.5. A discussion of the applications of online discussion in non-ELT, in ESL and in EFL is provided in detail below.

2.2.1 Application of Online Discussion in Non-ELT

In general education, a variety of elements have been investigated. Numerous empirical studies have been published to report students’ participation and interaction patterns (Arbaugh, 2000), engagement (Ellis et al., 2006), or peer/tutor facilitation (De Smet et al., 2010; 2008; Ng & Cheung, 2007) while others examine cognitive thinking (Angeli, Valanides, & Bonk, 2003; Christopher, Thomas, & Talent-Runnels, 2004; Hong, 2002) or knowledge construction (Hong & Lee, 2008; Vaughan, 2007; Wever, Van Keer, Schellens, & Valcke, 2009). Other studies explore teacher and student perceptions (An & Frick, 2006; Balci & Soran, 2009; Ng & Tsoi, 2008; Tyan & Hong, 1998; Vaughan, 2007), strengths and weaknesses, or factors of successful applications of online
discussion (Kumar, 2007; Ng & Cheung, 2007; So, 2009; Stacey & Gerbic, 2008; Vess, 2005; Wang & Woo, 2007).

The scope of online discussion studies conducted in general education has mainly focused on intra-cultural exchange outside classroom settings. Only a few studies have been carried out inside the classroom (Chen & Looi, 2007; Ng & Cheung, 2007; Vess, 2005; Wang & Woo, 2007). A comparison of online discussion in out-of-class and in-class situations has shown that the in-class mode enables students to generate lengthier messages, more perspectives on issues, in-depth clarification, inferences and information processing (Chen & Looi, 2007). More specifically, fewer cognitive indicators appear within limited class time (Vess, 2009). The work by Chen and Looi (2007) supports the idea for this research originated from my experience (Section 1.1) to employ online discussion both in and after class in the Taiwanese EFL context.

As compared with the face-to-face mode, online discussion is less efficient owing to a lack of multidirectional interaction and multichannel communication (Chen & Looi, 2007). The face-to-face mode is more efficient as a result of immediate responses and instant clarifications, while online discussion engages students who are shy or unwilling to participate in face-to-face mode (Mason & Rennie, 2008; Mazzolini & Maddison, 2007; Ng & Cheung, 2007). It is significant to observe that there is a mutually synergistic relation between online and face-to-face discussions (Vess, 2009). The face-to-face mode has increased understanding of online text to compose online
postings. Meanwhile, online interaction has improved exchanges of ideas to form concrete thoughts and enhance engagement in classroom activity. These researchers’ articulation provides evidence for this research to utilise both face-to-face and online discussions, which are required for Taiwanese students (Sections 7.1.5 and 7.2.6) to enhance their communicative competence. This combination of oral and written forms of conversations is particularly inadequate in the Taiwanese EFL context (Section 2.2.3).

Research examining students’ perceptions has reported benefits, drawbacks and factors affecting learning through online discussion. Online discussion offers students various learning advantages, such as increased engagement, improved understanding of topic and knowledge, extended ideas of the content, and improved reading and writing competencies (An & Frick, 2006; Hammond & Gibbons, 2005). The asynchronous mode, since it provides time for reflection, enables the discussion to stay closer to the topic. These results indicate that online discussion helps to develop a learner-centred environment. Empirical studies have identified environmental factors, curriculum factors as well as teacher and student factors as key influences that affect student participation and interaction in online discussion (Hammond & Gibbons, 2005).

Nonetheless, studies also show that online discussion may not directly contribute to learning effectiveness. First, online discussion is more demanding than the face-to-face mode because there is no immediacy of response. Second, greater participation and
interaction do not necessarily translate into higher grades. Third, online discussion does not greatly promote higher-order thinking and deep level of knowledge construction (Cotton & Yorke, 2006). Finally, students tend to answer questions rather than affirming or critiquing the ideas shared by others (Gerber, Grund, & Grote, 2008). These factors may come into play in reducing the positive effects of online discussion on learning. Learning through online discussion, however, is most likely to occur when students are encouraged to challenge their ideas and beliefs, as well as to evaluate others’ postings through analyses of their experiences and opinions (Ellis et al., 2006). This growing phenomenon of online discussion has attracted the attention of L2 researchers interested in establishing social construction online, which is part of the focus of this study, in the ESL and the EFL contexts.

### 2.2.2 Previous Research on Online Discussion in ESL

Empirical studies have shed light on the efficacy of online discussion from linguistic, pedagogical, cognitive and socio-affective aspects for ESL teaching and learning. Examining participation in online discussion, it has been reported that students’ participation in synchronous or asynchronous mode is less dominant and more equal than in face-to-face mode (Warschauer, 1996a; Yildiz & Bichelmeyer, 2003). Online discussion is more student-centred with less intervention from teachers. In addition, students generate more postings in small groups than in whole-class online discussion, owing to closer affinity with group members (Yildiz & Bichelmeyer, 2003). This indicates that online discussion in small groups more effectively facilitates participation.
This small-group approach was used in this research wherein participants learn and interact when working on small group discussion tasks rather than in a whole-class mode. These findings reveal that online discussion can enhance the language acquisition process by encouraging interaction among participants, collaborative text construction, and formation of communities of learners (Kim, 2011).

Research has further shown that online discussion affords various discourse features to be exploited for ESL learning. The synchronous mode presents a type of interactional modification similar to face-to-face conversations (Sotillo, 2000; Warschauer, 1996a). Sotillo’s (2000) study shows that discourse functions used in synchronous mode include apology, assertions, explanation requests, information requests, greetings, topic shifts, and corrective moves, based on their frequency from high to low. The asynchronous mode of interactional discourse, however, is similar to question-response-evaluation sequences in traditional language classrooms.

Sotillo’s (2000) finding corresponds to Warschauer’s investigation (1996a) that questioning, recasting, confirmation checks and paraphrasing, all of which are needed for L2 learning, are seldom found in the synchronous mode, although online discourse displays a wider lexical and syntactical complexity. Online utterances in the synchronous mode were longer and more formal than in the face-to-face mode (Warschauer, 1996a), but less formal (Sotillo, 2000) than in the asynchronous mode. The text nature of online discussion assists with the development of interactive
competence and thinking ability (Kim, 2011; Warschauer, 1996a). There is, however, an inadequacy in examining discourse or interaction functions in a L2 context with blended face-to-face and online discussions.

ESL students have shown positive attitudes towards online discussion as either an in-class or out-of-class learning task (Skinner & Austin, 1999; Sullivan & Pratt, 1996; Warschauer, 1996a). Students’ positive perceptions mainly centre on the affective and interactional aspects. First, students experience more motivation and increased confidence while discussing in an authentic online community (Skinner & Austin, 1999). Second, students are encouraged to communicate freely and comfortably in online discussion with significantly higher participation than in the face-to-face mode. Online mode provides a more equal opportunity for students to participate, particularly for those who are shy (Warschauer, 1996a; Yildiz & Bichelmeyer, 2003), resulting in a higher social presence (Yildiz, 2009). Third, students are less concerned about face saving and social norms and avoiding disagreements in online discussion because of the unthreatening environment (Yildiz, 2009), which also leads to increased interaction.

In spite of these benefits, online discussion has one main drawback related to the textual nature of the process. Text-based written communication lacks social context cues such as gestures, facial expression, tone and intonation, which may create misunderstandings during participants’ interactions (Yildiz, 2009). These findings about students’ positive and negative attitudes towards online discussion highlight the significance of utilising
blended face-to-face and online discussions proposed by this research because this blended use combines the strengths of the two modes of discussions to maximise EFL learning.

Empirical studies show that nationality, culture, personality, language proficiency, and student attitudes are all possible factors that affect students’ participation in online discussion. Shyness and language ability might be correlated with students’ willingness to voice opinions in online discussion (Warschauer, 1996a). Culture influences interaction patterns where the cultural norm is concerned. Students tend to avoid disagreements or confrontations to protect face in the synchronous mode (Shin, 2006), but face-saving is less of a concern in asynchronous mode (Yildiz, 2009). Non-native speakers of English in particular are not experienced with discussion, questioning and expressing opinions publicly (Yildiz & Bichelmeyer, 2003). They use few cohesive indicators such as greetings, salutations and vocatives (Yildiz, 2009). Nonetheless, factors relating to the learning environment, task design of online discussion and teacher facilitation (Kim, 2011) seem to be under-explored, particularly in the Taiwanese context.

2.2.3 Previous Research on Online Discussion in EFL

The applications of online discussion to ESL have also inspired EFL researchers and educators. In Asian higher education, university students are typically unresponsive in class. The usual communication pattern is teacher-led. This passivity and large class
size are ineffective circumstances for learning English. Incorporating online discussion into face-to-face instruction is intended to alleviate these problems.

The areas of the research focus mainly on participation (Barrs, 2012; Chang, 2006; Chen, 2005), interaction patterns (Chang, 2006; Mohd Nor, Hamat, & Embi, 2012), linguistic features (Kung, 2004) or language competence (Yang, 2012), peer revision (Liang, 2010), critical thinking (Chang, 2006; Chiu, 2006), and engagement (Yang, 2011). Studies mentioned above show that the synchronous mode is normally used as a compulsory in-class requirement to facilitate brainstorming by instantly sharing ideas during intensive interaction. Nonetheless, the asynchronous mode pertains to a supplementary out-of-class activity in an English reading or writing class to promote thinking abilities by providing more time for reflection. Case study design is the most commonly used method that best presents a thorough investigation into the quality and process of learning.

Exploring linguistic and interactional features, Kung (2004) conducted a case study in her reading class with 47 Taiwanese college English majors. She found that synchronous exchanges facilitated a variety of positive interactional behaviours, such as greeting, questioning, giving feedback, requesting clarifications, agreeing or disagreeing, negotiating duties, self-correcting, and returning to discussion after a digression. Online discussion promoted an exclusive use of English, but students’ writing contained a large number of misspelled words, usage mistakes, grammatical errors and sentence
fragments. A small amount of code-switching between English and Chinese along with computer-mediated expressions made conversations fun. Based on this point, the students who participate in this research are allowed to use a small amount of Chinese during online discussion.

Conversely, different interactional discourses occurred in a peer revision task. In Liang’s (2010) sophomore composition class with ten English majors and two non-English majors, using online peer response groups enabled students to collaboratively brainstorm, share and review texts. Liang’s study draws the attention of this research to the need of designing tasks, which require students to modify a text in their group argument. An analysis showed that meaning negotiation, error correction and technical actions rarely occurred in synchronous discussion; instead, social talk, content discussion and task management predominated in the chat. The results that emerged from Kung’s and Liang’s studies indicated that different types of tasks promoted different interactional discourses. These interactional activities encouraged EFL students to generate comprehensible language output.

Examining interaction patterns and critical thinking, Chang (2006) conducted a case study based on collaborative learning in her elective English writing course with 17 Taiwanese non-English undergraduates. She found that fewer fixed interactive patterns with specific group members occurred in asynchronous discussion, as compared with the face-to-face mode. An analysis based on the “practical inquiry model” proposed in
Pawan, et al.’s study (2003) showed that students mainly interacted at the level of exploration; rarely did they exhibit the higher levels of integration and resolution. In other words, students frequently reflected on the topics under discussion by information exchange and brainstorming; rarely did they comment on others’ opinions.

Conducting a case study based on social constructivism, Chiu (2006) explored how student and teacher interactions online impacted critical thinking with 37 college English-majors in a reading class. She coded the data based on Bloom’s taxonomy and found that students’ critical thinking underwent the phases of budding, blossoming to final maturation of fruiting. Owing to the time constraint in processing critical thinking, students favoured asynchronous discussion more than in-class synchronous chat. She concluded that online discussion was an influential mode in fostering critical thinking in particular the asynchronous mode because its delayed-time nature allowed students to voluntarily communicate with different thoughts openly and critically.

Examining online discussion types, Hsu (2008) explored free discussion and debate with two university English majors and 28 non-English majors in an elective English writing course. The investigation revealed that the free discussion type, focused on expressing individual opinions or personal experiences, promoted one-way interactions. In contrast, the debate type featured two-way interaction and encouraged replies to others’ comments and challenges of cognitive dissonance. These findings indicate that different types of online discussion result in different levels of interaction. Hsu’s study
provides some strategies for this research to design different types of discussion questions for promoting learner interaction in blended face-to-face and online discussions.

Empirical studies show that teacher’s facilitation, task types, length of discussion, students’ background knowledge and interests are possible factors that affect EFL student participation in online discussion. Culturally appropriate teacher facilitation is effective in encouraging EFL students to engage in critical thinking, as confirmed by Chiu (2009) who proposed a shepherd metaphor approach to facilitate critical thinking in online discussions. Liang (2010) also suggested that teacher’s modelling, scaffolding and support facilitate online discussion. In addition, appropriate discussion tasks effectively promote meaningful social interaction while providing sufficient time for discussion allows students to generate a high level of interaction (Chen, 2005). If provided with sufficient background knowledge, students were found to be able to identify problem points, check assumptions, and to differentiate fact from opinions (Chiu, 2006). Nonetheless, all the factors that may influence learning in a blended context of face-to-face and online discussions may have not yet been fully explored.

In spite of the above, the asynchronous mode fails to increase the rate of participation with regard to the Taiwanese learners. Students’ participation mainly meets the minimum posting requirement (Chang, 2006). Students primarily reply to initial questions or issues, but feedback given to group members or comments on others’
opinions are comparatively few (Chang, 2006; Chen, 2005). First, this may be related to the delayed-time nature of asynchronous mode which could lessen the motivation of Taiwanese EFL students. Second, it may directly relate to the Chinese culture of language learning with its focus on mastery of knowledge of grammar and vocabulary originating from the teacher and the textbooks (Ganem-Gutierrez, 2009) in a face-to-face classroom. Taiwanese students lack the development of skills necessary for communication in the target language. An explanation of Chinese culture of learning and communication is provided in detail in Section 2.4. These concerns point to the need for innovative strategies to apply online discussion into EFL teaching and learning in Taiwan.

Previous studies have documented many beneficial results arising from integrating online discussion with face-to-face instruction for language learning, yet the interactive process of students, in particular non-English majors, within both formal and informal contexts remains to be explored. There is a lack of empirical data investigating the dynamics of student learning in blended face-to-face and online discussions in and after class in the contexts of ESL and EFL. This gap has led to the need of this research to identify the quality and process of language learning with regard to interaction functions and the processes of meaning construction by using different discussion tasks via threaded discussion forums. Such group learning enables frequent interaction with other students to interpret, evaluate, comment and stimulate thoughts. In addition, an inadequate exploration of the benefits of online discussion and influential factors calls
for another need of this research to investigate students’ perceived learning gains and key factors that affect language learning in a blended context. These investigations would help to gain a comprehensive understanding of this innovative method, a blended approach, which is discussed in greater detail in Section 2.3.

2.2.4 Online Discussion and Collaborative Learning

Sections 2.2.1, 2.2.2 and 2.2.3 have shown that online discussion has been used to promote various modes of learning that can lead to enhanced learning outcomes for students in different educational contexts. Online discussion in this regard can be viewed as a platform to facilitate and foster collaborative learning that contributes to L2 learning because the collaborative work involved in online discussion provides a common ground for students to share knowledge and achieve shared learning goals (Mohd Nor et al., 2012). The principles of collaborative learning can be applied to promote online discussion which enables students to become involved in a particular discourse community (Flores, 1990; Warschauer & Kern, 2000; Wenger, 2005) by exchanging thoughts and promoting peer interaction with minimal teacher intervention. This more interactive process of learning can lead to constructive and reflective thinking. It is, therefore, worth reviewing some more about collaborative learning as a strategy for online discussion and its benefits for L2 learning.

There are a variety of definitions found in the relevant literature for the term “collaborative learning” (CL). CL is frequently regarded as “an instruction method in
which students at various performance levels work together in small groups towards a common goal” (Gokhale, 1995). Dillenbourg (1999) offers a more descriptive definition and refers to CL as situations in which groups of students interact together for a joint solution to a problem. More recently, CL has been described as a synchronous activity by which individuals negotiate and share meaning to construct a shared conception (Stahl, Koschmann, & Suthers, 2006). Although the definitions of CL vary, they, nevertheless, include necessary common characteristics as elaborated below.

First, collaboration involves a meaningful core activity (Donato, 2004). Second, CL features small group learning where students work together to accomplish a shared goal (Donato, 2004; Lauron, 2008). Construction of a shared task involves both an unstructured group process (Olivares, 2007) and individual learning. Third, collaboration characterises shared knowledge and authority among teachers and students (Tinzmann et al., 1990). Participants share knowledge, personal experiences and perspectives on issues, and they develop social relations in the process of joint construction of knowledge. Finally, the teacher’s role within collaborative learning shifts from the traditional authority figure to one of facilitator who mediates students’ learning to promote students’ independence and a free exchange of ideas. Rather than simply providing information, teachers help the students connect information to their experiences and learning. Collaboration acknowledges the importance of goals, the mutuality of learning and collective human relationships (Donato, 2004).
In terms of the theoretical features, CL is grounded in social constructivism. SCT, discussed in greater detail in Chapter 3, provides a conceptual framework for a description and explanation of collaboration. Collaboration reflects core concepts of SCT firstly in highlighting meaningful and purposeful joint activity which enables the collaborative co-construction of knowledge, and secondly in emphasising social interaction in which constructed collaboration is situated. Third, the mind is mediated through the use of tools or signs, symbols and through interaction with another person to develop higher forms of thinking which is derivative of mediated collaborations (Donato, 2004). In other words, collaboration in the context of blended learning as observed in this study occurs while students are engaged in a series of tasks for co-construction of meaning through exploration, interaction and negotiation with others in a group context. This interactive process allowed students to engage themselves at a higher cognitive level when they tried to think of ways of completing the language tasks with the help of the teacher. Sociocultural perspective of L2 learning is essentially a CL strategy which benefits many aspects of L2 acquisition.

Since its application to L2 education, CL has appeared to offer a number of benefits. McGroarthy (1993) proposes the following three main benefits of collaboration through group work: (a) increased variety of language and input to the learner, (b) increased interaction and output to the learner, (c) increased responsibility for clarifying meanings, (d) contextualised language learning with a meaningful purpose. Gibbons (2002) suggests two further benefits of collaboration through group work. First, similar ideas
are expressed in a variety of different ways. Second, L2 learners who are not confident in English feel more comfortable working collaboratively than being expected to perform in a whole-class situation. CL is always organised through group work, but not vice versa. More detailed pedagogical benefits of CL and its benefits in language development from existing empirical results are presented below and listed in Appendix 2.

The first pedagogical benefit is an increase of learner autonomy, defined as the notion of taking responsibility for one’s own learning (Littlewood, 1999; Sinclair, 2000). Studies show that collaboration through group work involving interpersonal interaction facilitates collaborative dialogue in which students become autonomous learners. For example, Swain et al. (2002) maintain that peer-peer collaborative dialogue occurs when learners encounter linguistic problems and attempt to solve them together. Collaborative dialogue shifts the authority from the teachers to the learners and provides interactive opportunities for feedback by questioning, disagreeing or proposing solutions. This process of collaboration by dialogue or negotiation of meaning promotes learner autonomy (Lee, 1998; Murphey, 2001). Such a process is of paramount importance to Taiwanese EFL students who are expected to shift their traditional role as a passive recipient to a more active and participatory role with less dependence on the teacher. CL mediates L2 learning and influences both language and cognitive development of language learners.
Another pedagogical benefit is an increase in the level of motivation. Collaboration promotes interaction that enhances social development (Lu, 2002) and improves interpersonal skills (Yang, 2009). It is believed that effective collaboration will help facilitate Taiwanese EFL students’ willingness to use English for online discussion. This argument corroborates the findings of Daniels (1994) that reveal an increased need for social approval during the CL process. A need for social approval is likely to result in a greater motivation to achieve. Similarly, Dornyei (1997) found that L2 learners were motivated to engage in varied interactions while working intensively towards completing group tasks, evidence that the CL process has a positive impact on learning attitudes and motivation. Additionally, Storch’s (2005) study indicates that trust and group cohesion are required for successful collaborations that encourage participation, which suggests that a supportive classroom environment may lower learning anxiety and improve motivation. This particular affective domain related to CL seems to play a crucial role in greater learning achievement.

The pedagogical benefits discussed above highlight positive learning outcomes. In L2 research, collaborative learning and cooperative learning have been, for the most part, used interchangeably. It has been debated whether these two orientations are two versions of the same thing or substantially different (Bruffee, 1999). Cooperative learning, developed by Johnson and Johnson (1989), can be identified as an approach to collaborative learning with a focus on the importance of group processing, positive interdependence, and individual accountability as critical elements to productive
collaborations in classrooms. A truly cooperative context could be always collaborative. This explains why these two orientations are used interchangeably in the L2 research. Theoretically, these two orientations have different group structures, goals and processes, but it is suggested extending L2 research by adding the literature about cooperative learning (Donato, 2004). In this study, cooperative learning and collaborative learning are used interchangeably as the focus of the study is on learner interaction in a peer and group context for meaning construction through language tasks. A number of the characteristics and benefits of collaborative learning have been observed in this study, which will be discussed further in Chapters 5 and 6.

A cooperative learning approach informed by the perspectives of the Input-Interaction-Output Hypothesis has been frequently used to study students’ academic achievement (Ghaith, 2002; Ghaith, 2003; Stevens, 2003; Yang, 2009). Experimental studies have been quantitatively conducted to examine students’ language skills. Various cooperative tasks have been shown to primarily improve writing (Stevens, Madden, Slavin, & Farnish, 1987) and speaking (Lu, 2002; Yang, 2005) as well as achievement in reading vocabulary, reading comprehension and language expression (Ghaith, 2003; Ghaith & El-Malak, 2004; Stevens, 2003; Stevens, et al., 1987). Particularly, higher order reading comprehension is likely to promote superior cognitive reasoning strategies and critical thinking (Ghaith & El-Malak, 2004). These findings support the assumption of McGroarty (1993) that cooperative learning is a
powerful approach to L2 acquisition because it establishes an instructional context that enhances many aspects of language development.

Research under the rubric of a cooperative learning approach necessarily makes cognitive assumptions about the nature of knowledge and learning. Although some of the research focused on the influences of group work can be directly transferable to collaborative learning, research specific to collaboration among college and university students relating to L2 remains inadequate, particularly in the learning context of Chinese culture. This inadequacy calls for a need of this research to apply a collaborative learning strategy for online discussion in the Taiwanese EFL context.

Nonetheless, the effectiveness of CL, which is a Western concept, seems very questionable in an Asian context influenced by Confucianism. Some researchers argue that CL does not appear to greatly improve the academic achievement of Asian students. Thanh et al. (2008) believe that Asian cultural values play a role in the lack of success with CL implementation; this viewpoint is consistent with the existing literature about the challenges of applying CL to Chinese-oriented contexts.

Thanh et al. (2008) point out three main Chinese values that affect the effectiveness of CL. The Asian culture of passive learning through memorization is the first value that conflicts with one of the main CL principles which emphasises active and independent learning. Another conflict is created by the teacher’s concept of his or her role (Messier,
Chinese teachers prefer to act as subject experts and reinforce the idea of teacher-centred, lecture-driven instruction. This preference is the opposite of the CL teacher’s role as a facilitator who encourages construction of knowledge within a group. Finally, the Asian students’ reticence in group discussions that results from an effort not to lose face and to avoid arguments and disagreements presents yet another barrier to the successful implementation of CL (Messier, 2003). This tendency is in conflict with the CL mode of encouraging students to develop critical ideas and to challenge each other’s arguments. Although CL is gaining more acceptance, it contains similar drawbacks arising from the abovementioned three issues related to the Taiwanese culture, as discussed in Section 2.4 of this thesis.

These concerns point to another need of this research to adopt a blended approach that combines face-to-face instruction and online discussion via an electronic forum to enhance the process and outcomes of EFL learning by applying CL strategy. On the one hand, online discussion involved collaborative work helps facilitate shared knowledge, exchanges of thoughts, and enhances student interaction with minimal teacher intervention. This new mode of learning challenges the traditional notion of learning that relies heavily on book knowledge and a master-apprentice relationship. It provides opportunities to alleviate students’ passivity to protect face and teacher-led instruction in large classes in Taiwan. On the other hand, face-to-face discussion provides social context cues that reduce misunderstanding during interactions. It is a requirement for
students to have face-to-face interaction with physical contact and immediate feedback from the instructor and other classmates as part of the language instruction. Towards this end, a description of the blended approach is presented in Section 2.3. In addition, a discussion of the Chinese culture of learning and communication is presented in Section 2.4 to examine its influence on the Taiwanese learner.

2.2.5 Analysis Tool of Online Discussion

Students’ textual responses in online discussion are commonly analysed by the use of content analysis, which is also adopted as an analysis technique in this research. Content analysis has long been employed to examine virtually all types of communication. Broadly defined, content analysis is “any technique for making inferences by systematically and objectively identifying special characteristics of messages” (Holsti, 1968, p. 608). From this perspective, photographs, video tape, or any item that can be translated into text would be amenable to content analysis. This technique compresses many words of text into fewer content categories based on explicit rules of coding (Weber, 1990) and enables researchers to sift through large volumes of data in a systematic fashion.

Content analysis can be used in either a quantitative or a qualitative approach (Stacey and Gerbic 2005) to examine various aspects of learning in text-based online discussion. Earlier research used content analysis technique to examine levels of participation (Henri, 1992) by quantitatively analysing students’ online contributions. However, these
quantitative data about the number of student contributions hardly helped to understand the quality of the interaction. Various coding frameworks of content analysis have been gradually established to capture an in-depth understanding of the interaction of online discussion groups with regard to interactional exchange patterns (Fahy et al., 2000; Zhu, 1998) and collaborative learning behaviours (Johnson & Johnson, 2001). These coding schemes help examine the quality of interactions during online discussion.

In addition to interaction investigation, some schemes are employed to examine critical thinking (Bullen, 1997; Newman, Webb, & Cochrane, 1995) and social and cognitive presence (Garrison et al., 2001; Rourke, Anderson, Garrison, & Archer, 1999) while others help investigate knowledge construction (Gunawardena, Lowe, & Anderson, 1997; Pena-Shaff & Nicholls, 2004; Veerman & Veldhuis-Diermanse, 2001; Weinberger & Fischer, 2005; Zhu, 1998). This methodology has been posited as a quantitative tool for transforming qualitative units of meaning within messages into numeric descriptions. However, it still remains a qualitative analysis because its purpose is exploratory and explanatory in a qualitative fashion (Garrison, Cleveland-Innes, Koole, & Kappelman, 2006; Stacey & Gerbic, 2005). The literature has shown that a coding scheme to measure online interaction function has not yet been developed especially for language teaching in the Taiwanese EFL context in which the interactive process of the EFL students in online discussion has been given little attention. This is one of the gaps that this research aims to fill by revising coding schemes proposed by other researchers.
2.3 A Blended Approach to Enhance Learning

2.3.1 Definitions and Characteristics

Incorporation of online discussion into face-to-face instruction results in a blended approach which is adopted by this research to create different learning communities for promoting interactions. This concept has emerged from the notion of blended learning. This blended approach has been widely employed in corporate and academic settings. The terms “blended”, “hybrid”, and “mixed-mode” are used interchangeably in the current research literature (Bersin, 2004; Bliuc, Goodyear, & Ellis, 2007; Graham, Allen, & Ure, 2003; Graham, 2004; Hinkelmann, 2004; Neumeier, 2005; Ng & Tsoi, 2008; Singh, 2003; Stacey & Gerbic, 2008; Vaughan, 2007).

With widespread adoption and availability of learning technologies, the blended approach has presently evolved to encompass a much richer set of learning models, such as e-Learning self-study with other blended media or events, instructor-led programs blended with self-study e-learning, live e-Learning centred with other media added, on-the-job training centred, and simulation and lab-centred (Bersin, 2004). This evolution has led to the increased levels of convergence of the virtual and physical environments.

There is no consensus on a single agreed-upon definition for blended learning. According to Graham (2004), some researchers define the blended approach as the
combination of instructional or training media, and some define it as the combination of instructional methods. These two positions discuss the influences of different combinations of media versus instructional methods on learning. Others have described it as the “combination of face-to-face instruction with computer-mediated instruction” (p. 4). The blending of face-to-face and computer-mediated elements has many different approaches and can take on many shapes or forms as shown in Table 2.1 (Chen & Looi, 2007; Singh, 2003).

Table 2.1: Matrix of different contexts vs. learning formats for blended learning

<table>
<thead>
<tr>
<th>Learning formats</th>
<th>Context of use</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>In-class</td>
<td>Out-of-class</td>
</tr>
<tr>
<td>Offline</td>
<td>Face to face</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Online</td>
<td>Synchronous CM tools</td>
<td>B</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td>Asynchronous CM tools</td>
<td>C</td>
<td>E</td>
</tr>
</tbody>
</table>

Studies in the literature mostly fall into the A cell (traditional face-to-face class) with the D cell (synchronous CMC off-class) or the E cell (asynchronous CMC off-class). This approach employs online components to supplement traditional classroom teaching. Learners have been asked to access online instruction outside the class at their own time and pace. Two archetypal learning environments have remained largely separate. One is the traditional face-to-face classroom with teacher-led instruction and person-to-person interaction, and the other is an online environment emphasizing self-paced learning (Graham, 2004). Some have argued that online learning as mere supplementation of a face-to-face course is not blended learning, (Stacey & Gerbic, 2008; Vaughan, 2007)
whereas others indicate “strong” and “weak” blends across significant to very small amounts of online learning (Littlejohn & Pegler, 2007).

The second approach combines the A cell (traditional face-to-face class) with the B cell (synchronous CMC in-class) or the C cell (asynchronous CMC in-class). In this approach it is of paramount importance to integrate online components into conventional classroom instruction. Online learning has become an integral part of face-to-face classes to reshape classroom learning experiences. In considering the characteristics of Taiwanese EFL students, this combination is believed to be especially beneficial for students who often encounter difficulties in language learning due to minimal exposure to the language and insufficient practice in large-class settings. Taiwanese non-English major undergraduates, in particular, require direct interpersonal communication in a real time context.

However, most empirical studies have adopted the first approach and put much emphasis on the evaluation of online learning and its impact on the blended format. Less attention has been given to investigations of the second approach, which is believed to deal with the challenges of language learning for the particular circumstances of the Taiwanese teaching context. There is an obvious lack of empirical research that focuses on student learning in a computer-supported context, which is rapidly emerging in Taiwan as mandated in government policies (Liu, 2005). This inadequacy points to a need for more classroom research and gather evidence to inform
curriculum innovation. It is set against this backdrop that this study has been designed to adopt a blended approach by combining a face-to-face mode and an online mode via threaded discussion forum in and after class (A, E and C cells).

2.3.2 Two Modes of Interaction: Face-to-face vs. Online

The blended approach combines two types of interaction: face-to-face and online. Interaction has been considered one of the key components of good pedagogy for the success of language learning. In face-to-face classrooms, interaction is mainly mediated by teachers and peers. Investigations into interaction mainly focus on student-teacher interaction (Gibbons, 2003) and peer-peer interaction (Burke, 2005; Swain, Brooks, & Tocalli-Beller, 2002). Teacher-student interaction intends to improve the learner’s linguistic knowledge and understanding of the subject matter, while peer interaction aims to promote the learner’s participation in the meaningful exchange of ideas (Nieto, 2007). These two types of interaction are particularly needed for students in the Taiwanese EFL context (Sections 6.3.1 and 7.1.5).

Face-to-face interaction occurs spontaneously in a real time context (Graham, 2004; Hirumi, 2002). The nature of spontaneity makes it easier for participants to develop a social presence by providing spontaneous conversations and instant feedback. This direct interpersonal connection can support interaction and lead to increased motivation and more interactive communication. It provides both verbal and nonverbal cues which help avoid misunderstandings (An & Frick, 2006). However, it may result in
insufficient time for thoughtful reflections. Face-to-face interaction is often criticized for its linear dimension which results in teacher-led interaction or one-way communication (Tyan & Hong, 1998) in the Taiwanese context, but this form of interaction is of paramount importance to Taiwanese EFL students when learning a L2 (Sections 7.1.5 and 7.2.6).

The nature of online interaction differs substantially from face-to-face interaction. Online interaction is broadly described as two-way communication among two or more people for the purpose of challenging perspectives synchronously and/or asynchronously through technology mediation (Cavallaro & Tan, 2006; Muirhead & Juwah, 2004; Song, 2003). Learner-content, learner-instructor, learner-learner and learner-interface interactions are four types of online interactions that are commonly examined. Online interaction has shifted from one-to-one to many-to-many and from immediate to either immediate or delayed, and has been considered as sustaining five interaction purposes (Northrup, 2001): to interact with content, to collaborate, to converse, to help monitor and regulate learning, and to support performance, with the characteristic of being more learner-centred and self-paced (Bannan-Ritland, 2002; Chou, 2002; Hirumi, 2002; Song, 2003).

Online interaction can foster active learning, enable effective facilitation, promote shared construction of knowledge, increase exposure to different perspectives, increase comprehensible input, foster cognitive and critical thinking, and enhance the quality of
the learning experiences (Kumar, 2007; Woo & Reeves, 2007). However, maintaining online interaction is challenging because of the time and space separation (Bannan-Ritland, 2002; Woo & Reeves, 2007). There is a lack of socialisation and the attention-getting benefits inherent in traditional face-to-face learning (Bersin, 2004) which contains confined spontaneous contextual cues (An & Frick, 2006; Hirumi, 2002), such as eye-contact, facial expressions, gestures, tone, and pitch. To alleviate the constraints of online interaction, the blended approach which combines both face-to-face and online components is an appropriate choice for the purpose of maximising learning.

2.3.3 Benefits and Challenges of Using A Blended Approach

Many researchers have advocated the advantages of this blended approach based on the perspectives of students, faculty and administration from both technological and learning aspects. Educators choose this blended approach over other learning options for six reasons: improved pedagogy, increased access/flexibility, increased social interaction, personal agency, increased cost effectiveness, and ease of revision (Graham, 2004; Osguthorpe & Graham, 2003). Many of the benefits discussed in this section have been observed in this study in terms of language development, problem-solving skills and integration of new modes of learning. These features will be further analysed in the chapter to follow.
This blended approach constitutes a strategic selection of appropriate delivery modes that blend not merely venues and tools, but also different learning experiences for the improvement of teaching and learning. Chapelle (2007) supports this approach by suggesting L2 researchers studying tasks beyond cognitive and interactional aspects to include mode and location conditions. This blended mode of learning would meet “the needs of larger numbers of students and teachers, and seems a key component of the more successful uses of ICT” (Eklund, Kay, & Lynch, 2003, p. 21).

Studies indicate that students and teachers have positive attitudes and a high level of satisfaction with the blended learning experience (Balci & Soran, 2009; Ng & Tsoi, 2008; Stacey & Gerbic, 2008; Tyan & Hong, 1998; Vaughan, 2007). Thompson (1990) pointed out that students were more satisfied with blended learning than with pure online learning because they perceived larger amounts of interaction from the increased verbal and nonverbal feedback. In addition, Vaughan (2007) reviewed some evaluation studies with a synthesis of students’ and faculty’s perspectives. The findings showed that blended learning provided increased flexibility, active and self-directed learning, increased independence, enhanced interaction, and engagement, resulting in improved learning outcomes.

These merits discussed above coincide with three characteristics of blended learning (Dziuban, Hartman, & Moskal, 2004): active learning emphasizing student-centred instruction; increased interaction among instructor, students and content; and integrated
assessment mechanisms. These three characteristics meet the core values of the current teaching reforms pertaining to Taiwanese higher education (Minister of Education, 2008). It is believed that this blended approach of combining face-to-face and online instruction will also meet the learning needs of Taiwanese EFL students.

However, some challenges to the blended learning approach exist. Vaughan (2007) argues that students encounter the challenges of increased study load, increased responsibility, and their active role required for learning in blended courses. As for the instructors, they will also need assistance to handle an increased workload, a lack of support for course redesign, and the difficulty of acquiring new teaching skills. Both students’ and instructors’ comments seem to indicate that they all need to prepare for this innovative approach.

2.4 Chinese Culture of Learning and Communication

Language learning is inexorably linked to culture; language reflects the culture and is part of the culture. The process of learning a foreign language implies a degree of intercultural learning. Jin and Cortazzi (1999) use the word “culture” to refer to “socially transmitted patterns of behaviour and interaction” (p. 98). Based on this definition, culture can be viewed as either content or medium for learning unconsciously. Learning English as a foreign language in Taiwan involves knowledge acquisition of the target language and culture by Chinese learners. In this research, English is learned in an intra-cultural context; in other words, both teachers and students
come from the same Chinese cultural background. For this reason, it is particularly necessary to understand the Chinese culture of learning and communication associated with present-day learning in Taiwan.

The traditional Chinese culture of learning continues to have great influence on today’s Taiwanese students. As Figure 2.1 illustrates (Jin & Cortazzi, 1999), the Chinese culture of learning is geared toward mastery of knowledge and skills. The teacher and the textbook are two main sources of knowledge. The teacher holds a highly authoritarian position in the teaching of grammar rules and in providing explanations of the meanings of terms in the textbook. Students work hard to take notes and memorise what the teacher presents. This transmission model of learning can be traced back to traditional values from Confucianism which continues to influence Chinese culture and students today.

**Figure 2.1: A Chinese cultural model of learning**

![Diagram of a Chinese cultural model of learning](image)

Research reveals the Chinese culture of learning as characterised by authoritarian teachers and docile students, rote learning, large classes, and exam-oriented assessments (Ballard & Clancy, 1991; Biggs, 1998). Chinese education is deeply rooted in Confucian philosophy. Affected by these traditional values and beliefs, classroom discourse requires harmony, collectivity, control of emotions, and avoidance of conflict. These Chinese cultural characteristics strongly impact on present learning in Taiwan with regard to the nature of relationships between teachers and students, and the styles of classroom discourse and activities. A discussion of teacher authority, memorization, and concern for face is necessary here in order to understand the thinking and the behaviour of Taiwanese students in the language classroom.

2.4.1 Respect for Teacher

The relationship between teacher and students in Chinese culture can be accurately described as a hierarchical one (Wang, 2006) in which the teacher holds the position of knowledge provider with the students as passive recipients of established knowledge. Proper respect is demanded for those who provide knowledge; Chinese students are taught and expected to honor the wisdom, knowledge and expertise of teachers (Chan, 1999). This perspective is an extension of the ancient Chinese traditions of respecting authority. Teachers are expected to fulfill their authoritative role through the process of transmission of knowledge and are also expected to guide, as well as teach, the students. They are never challenged or questioned; instead, students show them the proper respect
by keeping silent and avoiding issues that might challenge their authority (Jin & Cortazzi, 1999).

This traditional approach to classroom discourse continues in place in language classrooms. According to Tyan and Hong (1998), classroom activities are dominated by lectures in which teachers do all the talking. The teacher’s role is to maintain authority and discipline, with little learner autonomy allowed. Students merely sit and listen to accept knowledge of the target language with limited use of questioning or discussions. Although a high degree of mutual respect and responsibility characterizes the teacher-student relationship, there is a lack of interaction or spontaneity in class. Although Confucian values encourage the practice of enquiring and questioning, Chinese students tend to seek one-to-one interactions with the teacher after class (Chan, 1999). The typical classroom continues to maintain control according to authoritarian principles.

### 2.4.2 Learning through Memorization

Research shows that Chinese students are generally regarded as “rote or surface learners” (Chan, 1999; Jin & Cortazzi, 1999; Wachob, 2000; Wang, 2006) who learn mainly by rote and memorization. Chinese education emphasizes rote learning, which can be described as the process of learning in a mechanical way without thought or meaning, then merely regurgitating the acquired information (Chan, 1999). This emphasis on memorization may result from a cultural misunderstanding of Confucian
values, which seem to promote rote learning because of the practice of memorizing the classics and reciting the texts correctly (Nield, 2007; Wang, 2002). In addition, the educational goal of excelling in examinations motivates the learner to rely heavily on memorization, with the disadvantage that this method promotes surface learning by allowing the student to repeat information without having a real understanding of it (Wang, 2006). Nevertheless, learning to read and write with a good memory remains an extremely important factor in Chinese education.

Since Chinese education aims for the acquisition of a large repertoire of knowledge through memorization, Chinese learners tend to memorise lists of vocabulary words rather than expressing thoughts (Wachob, 2000). It is, however, important here to point out that memorization may not merely be equated with rote learning. Memorization can serve as a prelude to more profound understanding and is considered to be part of a deep approach; therefore, it may be a mistake to assume that Chinese students merely learn by rote and thus gain little or no understanding of the material. Lee (1996) reports that Chinese students specify a preference for understanding rather than surface learning. In Chinese culture, memorizing and understanding may be a connected and interlocking learning process (Nield, 2007), one in which students tend to combine memorization with other ways of attempting to understand the material. Memorisation can be effectively used as a way of second or foreign language learning because it enables students to attend to details of the language and helps students internalise what they have learned to apply in actual communication.
Biggs (1994) also argued that the learning styles of Chinese students have been misinterpreted as being limited to rote or repetitive learning techniques, without taking into consideration that repetitive learning can help students to attach meaning to the material and can assist them in the accurate recall of information. Chinese culture also promotes reflection and inquiry during the learning process and encourages sophisticated decomposition strategies, allowing students to better focus their memory on higher level learning strategies. This process provides confirmation of Cooper’s (2004) assertion that learning through repetition may lead to a deeper understanding and high levels of achievement. Chinese students perceive themselves as active by memorizing the material, understanding it, reflecting upon it and then questioning it; they use memorization as a revision tactic to improve their understanding (Nield, 2007). This method of learning, which can be called memorization with understanding, has been misunderstood by some Western observers (Marton, Dall’Abba, & Tse, 1996).

The method of memorization with understanding seems to be effective within a traditional grammar-based method of teaching English that has its root in Chinese literacy education. Chinese language learning stresses words and grammar. Similarly, form-based instruction stresses lexico-grammar and test-taking skills for accuracy (Wang, 2002.). Learners study for self-improvement with effort and the use of repetition to attain high individual achievement, which might explain why the traditional grammar-based method of teaching and learning English remains popular. Nevertheless,
learning with a focus on memorization has been found to lack creativity and originality. Chinese students are criticised for their lack of creative expression, critical thinking and problem-solving abilities. This indicates that there is a need to adopt a more interactive method for Chinese students.

2.4.3 Face Concern

Face protection is one specific facet of the collectivistic values of Chinese culture derived from Confucianism. Collectivistic values predominate in Chinese culture and significantly contribute to “the shaping of the Chinese self and to one’s perception of the relationship between self and others or the outside world” (Wen & Clement, 2003, p. 19-20). The notion of other-directed self emphasizes that the self will be significant only in the presence of the other. Chinese students are taught to be cautious and mind their behaviours so as to avoid disapproval or confrontation. The value placed upon modesty also prevents students from expressing their true opinions to keep from embarrassing or offending others. These values result in student silence in the classroom and learners are expected to express their opinions only when asked. Face protection is manifested in order to preserve harmony and avoid confrontation with the teacher and the class members.

On the one hand, students may be regarded as impolite if they ask questions and interrupt the class. Their questions might cause the teacher to lose face if the teacher is unable to answer. The teachers may think that students want to challenge their authority,
and such challenges are considered disrespectful; so students are not encouraged to speak out, to question or to criticize. On the other hand, students are afraid of being embarrassed and losing face by making mistakes, exhibiting poor performance, asking foolish questions or having no idea how to answer a question. They are not encouraged to waste other students’ class time by expressing their independent judgments. In addition, exposing others’ mistakes may also cause disharmony as it is selfish and shameful to cause other students to lose face.

As explained above, the need for face protection and for the maintenance of harmony exerts an influence over the participation of students in classroom discussions. Confrontation may result in a loss of face which might lead to learning anxiety. Wachob (2000) argues that there are two instances in which studying a language can cause loss of face: one situation involves being in a class with one’s superiors who are in an insider relationship; students then feel like they would lose face by asking questions. The second instance is failing a class. Issues related to shame and losing face thus may limit the degree of openness of discussions for Chinese learners in the classroom. The fear of losing face may partly explain the reason that Chinese students prefer not to express their opinions in public.

The three Chinese values discussed above significantly influence the relationship between teacher and students as well as classroom discourse in Taiwan. The EFL teaching and learning tends to focus on the outcome or the product of language.
Two-way communication is restricted for Taiwanese students in the classroom; they have been shown to be more receptive to learning and require a silent period to think about answers. There is a lack of student participation in classroom activities. Students are not accustomed to open discussions and expressions of opinion that might create an infringement of the Confucian ethic. In addition, the development of problem-solving abilities remains neglected since the achievement of students is assessed largely through written examinations that are not designed to test the ability to work with others and to solve practical problems. This deficit points to the importance of introducing a multifaceted approach concerning the use of collaborative tasks in discussion groups in a CMC-based environment for Chinese students, and prompts the inquiry relevant to this research.

2.5 Summary

This chapter initially reviewed the development of CALL in L2 based on different theoretical perspectives and provided a description of CMC including synchronous and asynchronous modes. The application of one type of CMC tasks, online discussion, was additionally delineated to understand the significant benefits to ESL and EFL learning. Collaborative learning as a strategy for online discussion and its benefits for L2 learning was subsequently described. This literature review exhibited a gap in L2 that has shown the need of this research to identify interaction functions of students, the processes of meaning construction and the potential benefits by employing blended discussions via
discussion forum in and after class in particular for non-English majors in the Taiwanese EFL context.

A blended approach was then introduced when blended face-to-face and online discussions was used in a CMC-based environment. This blended discussion increased the number of interactive opportunities for students to communicate in L2 and promotes collaboration. Its merits meet the core values of the current teaching reforms pertaining to Taiwanese higher education and the learning needs of Taiwanese EFL students. Finally, the Chinese culture of learning and communication was presented to offer significant insights into the Taiwanese cultural and educational values which exist in the context of this research. The next chapter will discuss the theoretical framework, sociocultural theory, which underpins this blended approach.
CHAPTER 3
THEORETICAL FRAMEWORK

The previous chapter reviewed the literature relevant to this research in the areas of CALL, CMC, online discussion, collaborative learning, blended face-to-face and online instruction, and the Chinese culture and learning and communication. Previous research indicated that a sociocultural perspective was most commonly applied to promote interpersonal interaction and facilitate collaboration for L2 learning in a CALL or CMC-based environment. Situated within a culturally-bound context (Western-Eastern) of Confucius Heritage Culture (CHC) in Taiwan (Chiu, 2009), sociocultural theory (SCT) (Vygotsky, 1978) offers a perspective when English learning is taking place in a new context of blended face-to-face and online learning through interactive discussion tasks. For this reason, SCT is adopted as an underlying conceptual framework of this research.

This chapter first delineates the influence of SCT on the L2 learning. Second, it describes the rationale for a sociocultural perspective. Third, it specifically discusses four core constructs of the Vygotskian SCT and the application of each concept to L2 learning. In particular, it highlights the connection between each of the constructs and the various aspects of learning in a blended face-to-face and online context, followed by a description of the rationale for a dynamic framework, informed by these four key constructs, that supports blended English learning.
3.1 Sociocultural Perspectives and L2 Learning

Sociocultural perspectives differ from the behaviourist perspective which focus on the formation of language habits (Larsen-Freeman & Freeman, 2008), and cognitive perspectives which see the human mind as a black box for internal processing and transmission of input and output (Ellis, 2000). Early research on second language acquisition (SLA) (Chomsky, 1986; Krashen, 1985; Spada & Lightbown, 2002) examined the learner’s linguistic knowledge such as lexicon, morphology, and syntax. Sociocultural perspectives shift between behaviourist and cognitive approaches, and change the view of language as contextualised.

From sociocultural perspectives, L2 learning is an interpersonal process that takes place in a specific social and cultural context (Ellis, 2000; Lamy & Hampel, 2007). The sociocultural perspective has contributed to the development of a number of concepts in L2 learning, such as situated learning (Lave, 1991), communities of practice (Lave & Wenger, 1991), and language socialization (van Lier, 2002). Research shows that language learning in the classroom context involves exposure, active engagement, conscious awareness of linguistic features, and negotiation of meaning through interaction. It is a process through which language learners acquire both received and experiential knowledge (Wallace, 2001). Interaction and social aspects of learning are the two main aspects of sociocultural approaches to L2 learning. The blended learning context would afford students opportunities to use the target language to communicate,
discuss and share ideas in a structured classroom that helps facilitates both the development of linguistic knowledge and deeper understanding of the issue under discussion. This issue will be further discussed in the data chapters.

Lantolf (2000), a particularly influential researcher of sociocultural approaches to L2 learning, provides a label for this new paradigm as “sociocultural SLA” (Ellis, 2000, p. 175). Sociocultural SLA advocates the view of language learning as a form of “participation” rather than “acquisition” (Pavlenko & Lantolf, 2004). This view distinguishes sociocultural SLA from other interaction aspects of L2 learning such as Interaction Hypothesis (Long & Robinson, 1998) and negotiation of meaning (Long, 1983; Pica, Pninos, Linell, & Lincoln-Porter, 1996) which simply see interaction as the means to making input and output available with a focus on form.

Sociocultural SLA research postulates that participation in collaborative dialogue (Swain, 2004) provides learners with an opportunity to discover not only what they can do with language but also what they cannot do. This identification of the learner’s inability provides “a context for learners to notice their linguistic shortcomings, which in turn, require that learners pay attention to form while attending to meaning making” (Johnson, 2004, p. 144). Learners’ understanding of the need to attend to “their linguistic shortcomings” is believed to facilitate their learning in the process of meaning-making through dialogue. Learners, particularly Taiwanese EFL students, are
also able to focus on the linguistic form when dealing with meaning-making through interactive language tasks in blended face-to-face and online discussions.

As the use of computers has become more common in L2 classrooms, sociocultural approaches are being applied to research on CALL and computer-mediated collaborative learning (CMCL). From the sociocultural perspective, the role of CALL and CMCL is to provide contexts for social interaction and collaboration with an emphasis on communication (Lamy & Hampel, 2007). Both interaction and context play prominent roles in the research of CALL or CMCL, in contrast with the traditional cognitive perspectives which believe that the function of CALL and CMCL is to present an opportunity for language input and output during meaning negotiation with an emphasis on form-focused interaction. Sociocultural approaches to CMCL provide a framework for the current research to examine how Taiwanese EFL students interact with each other and construct meaning in a context of blended face-to-face and online instruction for the enhancement of EFL learning. An explanation of the rationale of a sociocultural perspective is provided below.

3.2 The Rationale for A Sociocultural Perspective

The rationale for a sociocultural perspective comes from the fact that learning develops out of interactions situated in social contexts. This perspective, based on SCT was originally conceived in the work of Russian psychologist L. S. Vygotsky (1978), Wertsch (1985) and Leontiev (1981). According to Vygotsky, higher mental
functioning, namely language and thinking, develops first in interactions with another person and later gradually becomes intra-personal. Language as the manifestation of thought and speech is social in origin. The Vygotskian framework examines language development in both cognitive and social aspects (Johnson, 2004). The learner’s social environment is regarded not only as the source of the learner’s language input, but also as the source of the learner’s cognitive growth. Particular emphasis is given to the interaction between the individual learner and the environment, which provides a bridge between the learner’s external and internal realities during the process of L2 learning.

The sociocultural perspective is the preferred way to explore the potential cultural, interactional and environmental influences that impact the learning of language. Since this research targets Taiwanese students, it is necessary to consider cultural influences. Because this research examines the process of learning related to different tasks, it is essential to consider interactional and mediational influence as well. Finally, environmental influence must also be taken into account when the research is conducted in a blended context that combines face-to-face and online communication.

In view of these three factors, SCT provides an appropriate conceptual framework for this research. Within the theoretical base of SCT, four constructs specifically support the investigation of this research: mediated learning, interaction, the zone of proximal development and scaffolding. It is, therefore, necessary to present an explanation of
each construct. Built upon these four constructs, a dynamic framework is developed to study learning EFL in a blended context, as described in Section 3.4.

3.3 Sociocultural Theory and Its Main Constructs

3.3.1 Mediated Learning

According to SCT, L2 learning is viewed as a mediated process through the use of language for communication. Providing opportunities for interpersonal communication through the use of the target language is one of the main goals of this research. The notion of mediated learning informs the way to determine appropriate mediating tools that are required to create a blended context for this research. Lantolf (2004) explains that “the human mind is mediated”; humans do not interact directly with the environment they live in, but they use tools or signs to establish an indirect or mediated relationship with others and between themselves and the environment. Lantolf’s explanation points out the importance of mediated activity and the use of tools to stimulate interaction for the purpose of achieving a goal.

The concepts of mediated activity and the use of tools can be traced back to Hegel and Marx. The original discussion of the concepts asserts that man “uses the mechanical, physical, and chemical properties of objects so as to make them act as forces that affect other objects in order to fulfil his personal goal” (Vygotsky, 1978, p. 54). These ideas provide a basis for the concept of mediation, emphasizing the use of signs with physical tools to support the psychological process. Vygotsky (1978) points out that different
tools and signs have different functions. Mediation can occur externally or internally, as Ellis (2003) contends that “external mediation serves as the means by which internal mediation is achieved” (p. 176).

Vygotsky (1978) suggests that mediation can occur through utilising material tools, through the use of symbols and through interaction with another person. Kozulin (1998) categorises mediators into two types: one that uses symbols (symbolic mediators) and one that uses humans (human mediators). Symbolic mediators use psychological signs to mediate between their minds and the abstract world (Lantolf, 2004; Nieto, 2007). These signs are used to solve a psychological problem such as tying knots, casting lots or counting fingers. The act of tying a knot is both a cognitive and physical process in which the child is engaged at the two levels in learning to complete the task, as material tools work to support higher psychological functions. The trial-and-error process enables the child to explore ways of tying the knot by himself or with the help of a care-taker via language and thinking (internalised signs) as a mediator.

The more updated signs include numbers, music, art, or language. Differing from psychological signs, material tools are invented to facilitate labour intended to master nature. They include objects ranging from primitive tools, like a hammer or sticks, all the way to recent sophisticated tools such as money or a computer. Material tools alone do not lead to mental development, but support higher psychological operations; it is
necessary for a psychological process to occur as well. This symbolic mediation, as Vygotsky (1978) contends, is one of the “higher intellectual processes”.

Human mediators refer to the fact that human beings develop their mental functions through interactions with other individuals. Vygotsky (1978) uses the example of pointing to illustrate that a movement aimed at an object is an unsuccessful action without a reaction from another person. Nieto (2007) describes human mediation as “the ways in which humans establish a relationship between their mental representations and the world” (p. 216). The quality of mediation may vary considerably in different environments (Kozulin, 2002). For example, a child might perform differently at home, influenced by parental mediation, than in the classroom when responding to teacher mediation (Garton, 1992). Human mediation is socially-oriented and context-dependent. The concept of mediation informs the use of three main forms of mediators that frame this research to maximise dynamic interaction in a blended learning context: material (technology), symbolic (language) and human (teacher and students).

Lantolf (2000, 2002) believes that with regard to L2 learning, mediation includes social mediation from experts and peers, artefact mediation, and self-mediation from private speech. Social mediation relates to human mediators. Experts and peers function as two prominent mediators in the socially mediated process of L2 learning. Dialogue with experts or peers motivates participation in the socially negotiated process during which novices accomplish tasks that they are unable to perform alone (Lantolf, 2002; Nieto,
In a regular Taiwanese English class, the teacher plays the role of the expert to mediate learning. Placed in a big-sized class, students are hardly able to engage in interactive dialogue with the teacher or with other students to resolve learning problems. Social mediation from teacher and peers is considered a vital element to foster interaction in a blended learning context and will be discussed further when research questions are answered in this thesis (Sections 8.3.2, 8.3.3 and 8.3.4).

Artefact mediation is associated with symbolic mediators by its use of material and psychological tools. Language, tasks and technology are three essential artefacts studied in L2 research. These three artefacts have been designed as key mediators in the context of this research to determine their influence on mediating students’ EFL learning through blended face-to-face and online instruction. Language is the most powerful and pervasive cultural artefact mediator as “both a means of accomplishing social interaction and of managing mental activity” (Ellis, 2003, p. 176). Task serves as a form of mediation with regard to two key issues: how “performance depends crucially on the interaction of individual and task” (Appel & Lantolf, 1994 cited in Ellis, 2003, p. 185) and how tasks comprise participants’ task performances (Ellis, 2003). The implementation of technology in CALL and CMCL not only enhances students’ L2 skills, but also supports interactive learning by increasing social exchange and self-dialogue (Nieto, 2007). Even when cultural artefacts are continuously modified, they still work to meet both collective and individual needs (Lantolf, 2004).
The use of private speech is another necessary means of mediating the appropriation of an L2. The learner dialogues with him or herself in an attempt to understand a task and to accomplish the goals by speaking out or whispering the target language. Although the utterances produced in private speech are not fully syntactic (Lantolf, 2000), learners acquire control that helps them to remember, think, evaluate and learn in the process of privatising speech. Private speech may occur in blended face-to-face and online learning, but it is not the focus of this research. The concept of mediation serves as an umbrella for other tenets of the theory that are associated with this notion (Nieto, 2007). Central to this view is the construct of social interaction as elaborated in the following section.

3.3.2 Interaction

Within the broad theoretical framework of SCT, interaction with another individual is a central component toward advancing mental development. As Vygotsky argues (1978), higher mental development first occurs on the social level as “learning awakens a variety of internal development processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers” (p. 90). This process indicates that interaction is embedded in the process of learning mediated by another individual in a social context. Garton (1992) defines this progression as social interaction which implies a minimum of two persons exchanging information, and sharing experiences and knowledge through interpersonal encounters. The significance of social interaction is that it facilitates the development of linguistic and cognitive skills and knowledge.
This theoretical construct of interaction informs the use of student groups to promote dialogic interaction that provides the opportunity for collaboration and construction of meaning. Each student group, as argued by Wenger (2005), is like a sub-community wherein a group of students share a common interest in a particular area, build relationships, develop their collective competence and learn from each other as dealing with this area of information and experiences.

L2 and FL learning can be perceived as a process of higher mental functioning (Vygotsky, 1978). Language itself arises as a means of communication resulting from the need to check and confirm thoughts. The role of social interaction is to facilitate communication in the target language. Ellis (2000) contends that the L2 acquisition device is located in the dialogic interaction, not just as a result of interaction or as an individual-based process. Dialogic interaction facilitates L2 learning by offering opportunities for meaning-making or semiotic actions (van Lier, 2004). Previous research about the study of interaction in L2 research is mainly situated in classroom or web-based settings, respectively. This focus of investigation in a blended face-to-face and online context appears lacking in the existing L2 research. To maximize dialogic interaction, the context and the function of interaction is crucial (Garton, 1992) that inform the significance to examine the functions of interaction in a blended context.
Social interaction specifically fosters collaborative dialogue that facilitates the appropriation of both cognitive processes and linguistic knowledge in language learning (Swain, 2004). Collaborative dialogue performs both social and cognitive functions. Dialogue is conceived as “a jointly created social interaction” (Johnson, 2004, p. 144) that takes place when one engages in the process of explaining, clarifying, elaborating and defending ideas and thoughts (Pena-Shaff & Nicholls, 2004) where language is used to mediate these psychological functions. Collaborative dialogue enables learners to jointly engage in problem-solving and knowledge building, with a focus on two faces of an utterance as both process and product in a social activity. This negotiation work relates to meaning rather than form.

This is especially true in the case of learning a foreign language when non-native speakers (NNS) can mutually assist each other to resolve communication breakdowns, leading to comprehensible communication (Varonis & Gass, 1985). This NNS-NNS interaction informs the use of discussion tasks in and after class to facilitate collaborative dialogue where students may work collaboratively to achieve mutual understanding based on a common cultural background. Group discussion allows students interacting with others in the target language through a range of interactive tasks. Collaborative dialogue advances students’ actual ability to a higher level that is further described in the following concept delineating the zone of proximal development.
3.3.3 Zone of Proximal Development

Another construct of SCT applied to this research is the zone of proximal development (ZPD). The ZPD is evoked as a measure of the individual’s actual and potential levels of development. Vygotsky (1978) argues that the former techniques of testing an individual’s mental development and assessing based on tests only determines the individual’s actual development level, while failing to measure the individual’s potential development level. To solve this problem issue, Vygotsky proposes the concept of the ZPD to determine both crucial levels of development: actual and potential. To maximise learning the ZPD needs to be co-constructed.

The ZPD is defined as “the distance between actual developmental level as determined by independent problem solving and the higher level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86). The actual development level characterises “mental development retrospectively” (p. 86) that represents the individual’s independent ability to master mental activities without assistance. The potential development level characterises “mental development prospectively” (p. 87) that represents assistance required to perform certain mental functions. Learning in the ZPD allows one to predict the individual’s future capacities that have not yet stabilized but are in the process of maturation.
In addition to that, the ZPD enables an understanding of the relationship between learning and development. Vygotsky (1978) points out that the developmental process lags behind the learning process. This sequence creates the ZPD. The levels of learning and development are not hierarchically ordered or neatly sequenced; instead, they proceed in a spiral, passing through the same point at each new revolution while advancing to a higher level. In this respect, learning a L2 or FL also involves social interaction in the ZPD to enhance language development.

Van Lier (1996) describes the ZPD in a simple way as illustrated in Figure 3.1. The ZPD is the area beyond self-regulation wherein a person can only perform skills with someone’s assistance or access knowledge related to the existing knowledge or experiences with someone’s guidance. The action or knowledge in the ZPD is within reach, but anything outside the circle of proximal development is beyond reach and not available for learning. As Lantolf (2004) and Wells (1999) argue, the ZPD is an attribute of tasks or events in which learners and teachers jointly participate, rather than an individual attribute that each learner possesses. The ZDP is co-constructed through social interaction as participants engage in a particular task. After the task problems are resolved, the potential for further learning expands. This concept of co-constructing the ZPD through tasks provides some strategies for this research to implement a range of interactive tasks in order to examine how students accomplish the tasks under the guidance of others with different levels of ability.
Van Lier further maintains that productive work in the ZPD can be accomplished by using a variety of different resources (Figure 3.1). In the ZPD, language learners can obtain assistance from more capable peers or adults (zone A). They may interact with peers who are of equal proficiency (zone B) or who have a lower level of proficiency (zone C). Van Lier’s articulation highlights some good ways for this research to utilise mixed groups to encourage collaborative dialogue that promotes language learning through collaboration and negotiation of meaning. In addition, learners can provide support for themselves by relying on their inner resources (zone D) such as knowledge, experience, memory, etc. These resources in the ZPD may represent different kinds of assistance which will be examined further in the following discussion of scaffolding.

*Figure 3.1: Multiple zones of proximal development*

3.3.4 Scaffolding

The final construct of SCT applied to this research is the notion of scaffolding. The theoretical basis of scaffolding is derived from the notion of assisted performance in the ZDP (van Lier, 2002). Early discussion of the scaffolding metaphor examined assisted performance in a mother-child context by investigating how a mother assisted a child in taking over more of the action in a game until the child became more and more self-directed (Bruner & Sherwood, 1975). The term “scaffolding” was first coined by Wood et al. (1976), who explained the concept as a process by which adults assisted children to perform tasks that children were unable to perform independently. Six types of tutor scaffolded functions are identified:

1. Recruitment: drawing learners’ attention and interest to the task
2. Reduction in degrees of freedom: simplifying the task demands
3. Direction maintenance: maintaining motivation and progress toward the task goals
4. Marking critical features: interpreting discrepancies between what has been produced and the ideal solution
5. Frustration control: decreasing stress and risk
6. Demonstration: modelling an ideal version of the act to be performed

This notion of scaffolding is widely applied across diverse learning contexts. In the educational classroom context, the concept of scaffolding generally refers to teacher intervention in students’ learning (Mercer, 1994). Beed et al. (1991) have identified assisted modelling, element identification and strategy naming as three main forms of
teacher support. Roehler and Cantlon (1997) further designate several other different types of teacher scaffolding: offering explanations, recruiting students’ participation, clarification of students’ understandings, modelling, generating questions and comments, and inviting students to contribute actively. These principles of teacher scaffolding or support for learning have confirmed many dimensions of the original conceptualization by Wood et al. (1976). Teacher support is the dominant type of scaffolding for students learning in traditional face-to-face classrooms.

In an effort to ensure a complete understanding of scaffolding, Hammond and Gibbons (2001) delineate three key features of the process. First, scaffolding provides temporary and timely support. Second, the scaffolding process extends understanding. Effective scaffolding provides adequate support to help learners complete a task and internalise new understandings that push them beyond their present (Mercer, 1994). As the learners are increasingly able to manage the task, assistance is gradually withdrawn and further support is provided for extended or new tasks. A scaffold is dynamic and flexible, rather than rigid and static (van Lier, 2002). In this respect, scaffolding is referred to as “contingent teaching” (Wood & Wood, 1996) or a “contingency” (van Lier, 1996) that emphasizes timely assistance responsive to learners’ reactions in the ZPD. The quality of scaffolding depends on the level of challenge in the task and the amount of teacher support that students reach in the ZPD (Mariani, 1997).
A thorough examination of scaffolding also requires a look at its different levels. Hammond and Gibbons (2001) categorise scaffolding into a micro level and a macro level. The micro level of scaffolding occurs in the ongoing interactions between teacher and students and a macro level relates to the program goals and the sequencing of tasks. As van Lier (2002) contends, the micro level of teacher-student interaction is referred to as interactional scaffolding, and focuses on joint construction of knowledge to advance understanding. The macro level is referred to as structural scaffolding, and focuses on curriculum, task sequence or activity. Effective scaffolding provides support at a micro level located within the macro framework of a planned program. The contingent scaffolding is central in achieving interaction with a focus on process rather than on product (van Lier, 1996). These concepts of micro and macro levels of scaffolding provide a framework for this research to design the curriculum including task sequences and discussion questions, as well as to offer teacher and peer support in order to sustain EFL learning in a blended context. These elements will be discussed later when addressing research questions in this thesis (Section 8.5.1).

The concept of scaffolding has extended to online education instruction based on the initial principles of scaffolding applied to face-to-face classrooms. Although these principles apply both to face-to-face and online education settings, the nature of scaffolding in the different settings may differ in degree and kind. In the face-to-face context, verbal interaction is the most common form of scaffolding (Rosenshine & Meister, 1992), with support for learning initiated by the teacher. Teacher questioning is
an example of scaffolded assistance to structure task and support learning (McCormick & Donato, 2000). The teacher is most often regarded as the expert and the student as the novice. In contrast, in online learning settings scaffolds can be created by software, technological tools and web-based functionalities. Online learning is primarily resource based and self-paced with increased responsibilities for students and a reduction in the direct intervention of the teacher (McLoughlin, 2002). Students play an active and participatory role as initiators and co-participants in self-regulating learning processes (Collis & Moonen, 2001). The role of the teacher or the student requires further investigation, specifically in a blended face-to-face and online learning context and will be further discussed when research questions are answered in this thesis (Section 8.2.2).

Scaffolding in online education settings mediated by technology includes three core elements of support with regard to social, task and peer aspects (McLoughlin, 2002). Effective scaffolding required for learning in environments mediated by technology must include encouragement for reflective thinking; social support for dialogue; and interaction and idea exchanges (McLoughlin & Oliver, 1998). For example, the World Wide Web affords social support and enables reflection, dialogue and interaction in an online community. Discussion forums afford peer support and allow the sharing of information and the review of ideas and feedback as illustrated in the evidence from this thesis (Sections 5.3, 6.1 and 6.2). Although every form of technology-based scaffolding provides learning support, each may differ in the degree and the nature of assistance offered for social engagement, peer learning and task structuring (McLoughlin, 2002).
These three core elements of support provide a direction for this research to investigate key factors that might influence EFL learning in the blended context of this research, and will be further discussed when research questions are addressed in this thesis (Section 8.5).

Interaction, understood in this light, is like an engine that moves the learning wheels of mediation, the ZPD and scaffolding, to advance language development. Each tenet is an independent construct, but all the tenets are interconnected. Built upon these four constructs, a dynamic framework for blended English learning is developed, one which describes each of these constructs and links their connection with various aspects of learning as delineated below.

**3.4 A Dynamic Framework for Blended English Learning**

Built upon the concept of language learning for communication, the application of a sociocultural approach to CMCL provides a basis for this research to examine how students interact and construct meaning through a range of interactive CMC-based tasks in a blended learning context. A blended face-to-face and online learning setting could be perceived as a distinct sociocultural context and is a novel learning environment for Taiwanese non-English majors and sufficient attention has not yet been given to the theoretical issues that this entails. An understanding of how this novel learning context built on a sociocultural perspective provides the opportunity for students to communicate with others in the target language is necessary and significant.
Based on the existing empirical results, blending different modes of communication and learning settings has the best potential to facilitate dynamic learning (Chen & Looi, 2007; Sotillo, 2000; Singh, 2003; Vess, 2005; Warschauer, 1996; Yildiz, 2009). This argument has informed the researcher in developing a dynamic framework for blended English learning (a dynamic BEL framework) in order to guide classroom instruction and task design as shown in Figure 3.3. The rationale for this framework illustrates that dynamic learning could be maximised when learning occurs within two learning formats (face-to-face and online) and two learning settings (formal/in-class and informal/out-of-class). A blended learning context built on this framework creates four different learning communities: face to face and online learning inside the classroom (zone A and zone B) and outside the classroom (zone C and zone D).

**Figure 3.2: A dynamic framework for blended English learning**
Informed by the SCT, the constructs of mediation, the ZPD, interaction and scaffolding are applied to this framework. The concept of mediation is applied to utilise artefacts such as discussion tasks, L1, L2, and a threaded discussion forum, as well as social mediators such as teachers and students to mediate the learning process. The notion of the ZPD is applied to form mixed student groups and design interactive tasks. The construct of scaffolding informs the use of controversial questions for discussion, the sequence of tasks and the offer of teacher and peer support to guide instruction. Applications of these three constructs facilitate student interaction through collaborative dialogue in blended discussions that include face-to-face and online modes of interaction. English learning would be a mediated process and occur in the ZPD wherein students are able to obtain sufficient assistance through social interaction.

The present research will be situated in three learning communities as shown in zone A, B and C. Students will be exposed to face-to-face discussion inside the classroom (zone A), online discussion inside the classroom (zone B) and online discussion outside the classroom (zone C) when performing a set of interactive tasks. Community A affords a synchronous mode of learning though oral communication in a face-to-face setting. Community B supports a synchronous mode through written text communication in an online setting. Community C sustains an asynchronous mode through written text communication in an online setting. The decision to locate the contexts of this research in zone A, B and C was grounded both in the state of the art in L2 research on CMC and
in the feasibility of community creation. Integrating online discussion into face-to-face instruction in and after class fills the gap of insufficient empirical data in this area that exists in the literature. This dynamic BEL framework built upon the four constructs of SCT is believed to maximise EFL attainment in terms of interaction, meaning construction and learning gains by enabling different preferred modes of communication and learning settings (Chapelle, 2007) with sufficient assistance.

3.5 Summary

This chapter outlined sociocultural theory, the theoretical framework of this research. The rationale for a sociocultural perspective was introduced to further address its applications to L2 learning. The four main constructs of sociocultural theory were specifically discussed: mediated learning, interaction, the ZPD and scaffolding. Built upon these four constructs, a dynamic framework for blended English learning was developed to maximise learning through face-to-face and online instruction inside and outside classrooms in the Taiwanese EFL context. The next chapter will describe the methodology and methods adopted for this research.
CHAPTER 4

RESEARCH METHODOLOGY

The previous chapter outlined the broad sociocultural perspective that forms the theoretical framework underpinning this research. The primary purposes of this research were: (a) to examine how Taiwanese students learn, especially non-English majors, through blended face-to-face and online discussions; (b) to investigate specific functions of student interaction and the processes of meaning construction through a range of interactive discussion tasks; and (c) to explore how the blended discussions have contributed to EFL learning. For this reason, a case study that employed a combination of quantitative and qualitative methods was more suitable than one that relied on any single method. This chapter presents the general methodology, specific methods, research design, data collection and analysis, and course tasks employed in this research.

The following section begins with a discussion of the case study design, the mixed-methods approach, methodological advantages and concerns, and the rationale for the specific methods used in this research, followed by a presentation of this research design and data collection procedures. The four primary methods that were used to collect data consisted of participant observations, focus group interviews, students’ discussion logs and a questionnaire survey. The section ends with a discussion
of the design of course tasks and data analysis procedures, and concludes by addressing ethical considerations.

### 4.1 Case Study Design

This research employed an embedded single-case design as its research strategy. The decision to adopt an embedded single-case design was grounded in the research purposes elaborated above. As discussed in Chapter 1, the main purposes of this research focused on an in-depth examination of students’ interaction and meaning construction processes across groups in a single class. The embedded design allowed for in-depth observations across subunits within a single case. Data collected can be analysed separately within the subunits, between the different subunits, or across all of the subunits (Baxter & Jack, 2008) in order to strengthen research findings. A single case study with embedded units is better suited for this research than the use of multiple case studies because the single case method is less time-consuming and also allows the researcher to examine different groups in an innovative context. Therefore, a discussion of case study design is provided in detail below.

The case study strategy is useful for researching “instances of a phenomenon in its natural context and from the perspective of the participants involved in the phenomenon” (Gall, Gall, & Borg, 2003, p.436 cited in Duff, 2008). Yin (2003) defines a case study as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and
context are not clearly evident” (p. 13). The purpose of a case study is to examine particular issues in depth for detailed knowledge and a comprehensive understanding of the complexity and dynamic nature of the particular entity in a natural setting over a period of time (Johnson, 1992; Neuman, 2006; Punch, 2005). The case study is able to holistically describe, explain and analyse a case in order to answer particular questions or to study specific phenomena (Baxter & Jack, 2008; Merriam, 1998). Case studies are widely used in various disciplines because they may offer insights that might not be achieved by using other approaches.

There are various types of case studies. Yin (2003) categorizes case studies as either explanatory, exploratory, or descriptive. An explanatory case study is conducted to discover which causes produced which effects. An exploratory case study aims at analysing situations in which the intervention being evaluated has no clear, single set of outcomes. A descriptive case study presents a complete explanation of a phenomenon within its context. Stake (1995) identifies case studies as being either intrinsic, instrumental, or collective. An intrinsic case study aims to understand the idiosyncratic nature of a particular case. An instrumental case study is conducted mainly to provide insight into an issue, or to help to refine a theory. A collective case study is an instrumental study extended to cover several cases with the primary focus of investigating a phenomenon or situation. Yin (2003) further differentiates between single-case designs and multiple-case designs. In single-case studies, a thorough
investigation can be conducted by examining the holistic aspects of a unique case or its embedded subunits.

The determinant for the use of a single-case study involves a situation in which the case represents either (a) a critical test of significant theory, (b) a rare or unique circumstance, or (c) a representative or typical case, or (d) when the case serves a revelatory or (e) longitudinal purpose (Yin, 2003). Single case studies can be divided into holistic and embedded studies. Holistic single case studies examine the case as one unit with a focus on the global nature of an organization. The holistic approach, while advantageous in ensuring a holistic view of the case, may miss changes in the unit of analysis during the course of the study.

In contrast, the embedded case studies identify a number of subunits within a single case. The subunits often add significant opportunities for illuminating insights into the single case. The embedded design enables researchers to thoroughly understand a unique case by investigating its subunits, as shown in Figure 4.1 Yin (2003). However, if too much attention is focused on the subunits, the approach might fail to provide a holistic perspective of the case. In order to avoid this failure, results from the subunits were drawn together to yield an overall picture of the case.
Case studies have traditionally been criticised for a lack of rigour and objectivity in the collection, construction and analysis of empirical data, as cited by Merriam (1998) in Hamel’s (1993) argument. In addition, most of the relevant literature contains cautionary statements with regard to generalizing case study findings to larger populations (Bassey, 1999; Duff, 2008) if generalization is the objective. Conversely, Punch (2005) emphasises that the findings from a case study with a focus on the common elements can be potentially applicable and transferable to other cases when the data are analysed by conceptualizing and developing propositions; this process will potentially increase their external validity.

To improve the overall quality or trustworthiness of a study, triangulation of data sources can be applied as a primary strategy to explore the phenomena from multiple perspectives (Baxter & Jack, 2008). In this research, several data collection instruments were employed: participant observations, focus group interviews, archived online
discussion logs, and a questionnaire survey. Unique in comparison to other qualitative approaches, case study research can be based on any mix of qualitative and quantitative methods for data collection and data analysis (Duff, 2008; Rowley, 2002; Sturman, 1994). This inclusion of both qualitative and quantitative methods is referred to as the “mixed methods approach”, which is the one adopted in this research. The mixed methods approach is commonly employed in a single study or in multiple studies of a research program, as illustrated in detail below.

4.2 Mixed Methods Approach

Quantitative and qualitative methods in social science are commonly recognised as two distinct research methods. The dichotomy between the two methods not only refers to the techniques applied in each method, but also reflects the two philosophical positions underlying the two methods (Creswell & Plano-Clark, 2006; Punch, 2005; Spratt, Walker, & Robinson, 2004). Each of the two methods has its own strengths and neither method is superior to the other.

Quantitative methods are believed to reflect positivism and post-positivism (Neuman, 2006; Spratt et al., 2004). Positivists believe that there is absolute true knowledge which can be discovered through scientific methods. This true knowledge is objective and ultimately measurable. This philosophy of science emphasises evidence and sees social phenomena as having objective reality. Positivism takes a reductionist approach to
research which involves reducing ideas into a small, discrete set of ideas to test. Based on this worldview, all hypotheses and theories must be tested deductively against observations of the natural world. This approach conceptualizes reality in terms of variables that comprise hypotheses and research and the relationships between those variables, emphasising objectivity in data collection and relying on measurement. Quantitative data enable standardized and objective comparisons and the measurements provide overall descriptions of phenomena in a systematic and comparable way.

In contrast, qualitative methods are believed to reflect interpretive, naturalistic and constructivist paradigms (Migiro & Magangi, 2011; Neuman, 2006; Spratt et al., 2004). These philosophical paradigms comprise the systematic analysis of socially meaningful action through the direct detailed observation of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social world. The purpose behind the qualitative methods is to explore a topic or discover the underlying meanings and patterns of relationships, and inductively generating hypotheses and theories. Qualitative research is especially effective for obtaining culturally specific information about the values, opinions, behaviors, and social contexts of particular populations without involving the use of mathematical models.

Quantitative and qualitative methods, however, are not mutually exclusive. The main
distinctions between the two methods lie in the nature of the data and in the methods used for collecting and analysing data. They have been considered to be like the two ends of a continuum, with the third methodology, mixed methods, situated in between. The mixed methods approach represents a philosophy of pragmatism articulated by many researchers (James, 1907; Maxcy, 2003; Peirce, 1904/1997). The pragmatists pursue answers to research problems by utilising any methods available to obtain knowledge about the problems regardless of the underlying circumstances. This pragmatic perspective rejects the notion that the use of any single method can effectively access knowledge; instead, a combination of qualitative and quantitative methods within a single study works best to understand a particular problem (Migiro & Magangi, 2011).

The mixed methods approach refers to the mixing of quantitative and qualitative methods or forms of data in a single study or in multiple studies (Creswell & Plano-Clark, 2006). This kind of integration is also referred to as the “multi-strategy approach” in which a qualitative method is used to examine the processual aspect, while a quantitative method is used to acquire structural features (Punch, 2005). The mixed methods approach, based on a pragmatic philosophical stance, has been widely adopted in the research of SLA (Dörnyei, 2007).
According to Creswell and Plano-Clark (2006), a mixed methods research design involves four decisions that influence the design choice: (a) a timing decision (whether the two methods are implemented concurrently or sequentially); (b) a weighting decision (whether the two methods have equal priority or one has a greater emphasis than the other); (c) a mixing decision (at what stage the two methods are integrated); and (d) a theorising decision (the choice of a theoretical perspective that guides the mixed methods inquiry). Researchers can choose any combination of timing, weighting, and mixing decisions in their mixed methods design. These decisions, combined with different research purposes, lead to different design choices such as triangulation, embedded, explanatory and exploratory mixed methods designs.

Researchers have recognised a number of strengths in the mixed methods approach which shows the superiority of this design over any single method design (Creswell, 2003; Johnson & Onwuegbuzie, 2004; Morgan, 2007; Tashakkori & Teddlie, 1998). First, the mixing of methods can provide answers to research questions with a broader scope than the single method. The mixed methods approach can better serve research that aims to answer exploratory questions about how a predicted relationship actually happens. In addition, the combination capitalizes on the strengths of both methods and compensates for their respective weaknesses (Punch, 2005). Integrating a variety of data sources and analytical techniques, the mixed methods approach can yield more comprehensive findings (Dinham, 2002) by obtaining stronger evidence. Finally, mixed
methods designs allow for diverse perspectives which lead to greater insight and deeper understanding of a phenomenon. These advantages of the mixed methods approach may produce more complete knowledge necessary to inform theory and practice and increase the generalizability of the results.

However, when constructing mixed methods designs, it can be somewhat difficult for researchers to decide how to mix the two methods appropriately. One factor that must be taken into account is the weighting of the two methods. Morse (1991) suggests that the priority of the methods can be gauged by the theoretical drive, the research purposes and questions, the use of procedures and the resources for the methods. These practical considerations, which were carefully assessed in the design of research methods for this study, may help to decide whether to assign equal weight to both methods or prioritise one over the other. Another concern involves deciding at what stage to integrate the two methods, choosing between the stages at which the research questions are conceived, or at the stages pertaining to sampling, developing instruments, analysing data, or interpreting findings. Finally, it can be more difficult and time consuming for a single researcher to carry out mixed methods when they have to be conducted concurrently.

The decision to adopt mixed methods for this study was grounded both in the state of the art in L2 research on CMC and in the purpose of this research, i.e., to extend a comprehensive understanding of students’ learning and perceptions through a set of
interactive face-to-face and online discussion tasks. As reviewed in Chapter 2, a number of studies on students’ attitudes and perceptions have mainly adopted quantitative methods (Chen, 2005; Skinner & Austin, 1999; Warschauer, 1996a; Yildiz, 2009; Yildiz & Bichelmeyer, 2003) that have helped to empower researchers in capturing the nature of psychological constructs by collecting a large sample of data. In quantitative research, measurement is generally accomplished through statistical methods using scale items. This research employs a survey questionnaire to explore students’ perceptions of their learning gains and influential factors in order to complement and validate the qualitative data.

An increasing number of qualitative studies situated in educational settings are emerging to examine students’ social presence, interactional patterns, discourse functions, and critical thinking (Chiu, 2006; Kung, 2004; Liang, 2010; Shin, 2006; Sotillo, 2000). This emergence may reflect a recognition of the possibility that quantitative methods alone are inadequate to evaluate the quality of students’ written language and content, learning processes, and individual in-depth perspectives. Responses to discrete questionnaire items may not suffice to reveal the complexity of students’ learning in blended face-to-face and online discussions; in order to understand the processes of student interaction and meaning construction in such an innovative setting, a qualitative approach is necessary to facilitate in-depth inquiry.
The choice of a mixed methods design for this research was guided by “methodological purposiveness” (Richards & Morse, 2007), which means that the research purposes and questions were the deciding factors in selecting the most suitable approach. The present mixed methods approach was equivalent to a QUAL→quan design (Creswell, 2003) as shown in Figure 4.2. The qualitative methods were followed by the quantitative methods and both of them were complete in themselves, with more weight assigned to the qualitative. The integration of the two methods occurred at the final interpretation stage. The quantitative methods served to complement, triangulate, and expand on the qualitative methods; this mixing of methods thus takes advantage of both the in-depth, contextual nature of qualitative findings and the representativeness and generalizability of quantitative findings.

![Figure 4.2: A visual model for the mixed methods design and procedures](image-url)
4.3 Research Methods and Instruments

This research employed four data collection methods: participant observations, focus group interviews, a questionnaire survey and online discussion logs archived in a Blackboard online learning system. Participant observations and discussion logs allowed the researcher to gain insights into students’ learning in terms of their interaction and the processes of meaning construction. In addition, the focus group interviews and the questionnaire survey provided information to explore students’ perceptions of their learning gains and the key factors influencing students’ learning. A detailed description of these methods, instruments and procedures is provided below.

4.3.1 Participant Observations

Observation is a qualitative research technique used to obtain a detailed and comprehensive understanding of the phenomenon from the perspective of the researcher rather than the participants, allowing the researcher to study the participants’ behaviours in natural settings. Observation of natural behaviours facilitates analysis of the processes below the surface of conscious awareness (Punch, 2005), and proffers triangulating evidence to self-reported data, as the participants’ self-reports might not genuinely reflect their behaviours in class. In this study, participant observations were conducted to gather data with regard to students’ face-to-face interaction in order to answer Sub-research question 2. The researcher acted not only as an observer but also
as a participant, based on the assumption that participant observation offers necessary assistance and facilitates positive group interaction and relationships among students.

Participant observations were conducted without using audio or videorecording equipment, with the intention of eliminating the effect of these techniques on the natural interactions of students. Although recording might have been useful to facilitate stimulated recalls, it might also have distracted the students and possibly distorted their communicative behaviour. During observation, the researcher hand-wrote the relevant notes, which were designed prior to observation, to ensure minimal intrusion in order to record students’ face-to-face responses with their group members and the instructor. This process was intended to impart an understanding of the functions of student face-to-face interaction, in other words, precisely how face-to-face interaction assisted EFL students in achieving their learning tasks.

**Observation Instrument**

Observations were recorded by handwriting in the observation sheets using predetermined categories and classifications. The observation sheet consisted of three main parts: flow of discussion, content of discussion, and field notes (see Appendix 3). Flow of discussion recorded the conversation flows of the students within each dialogue. Content of discussion described the main ideas or themes that students conversed about in the dialogue. In the field notes section, the observers wrote objective reports about
what they saw including all accounts and observations, such as students’ on-task or off-task behaviours or interactions, and teacher-student interaction.

**Observation Implementation**

Participant observation was conducted while the participants were performing small group discussions in the digital language laboratory. Three voluntary groups were chosen for observation and recording of their verbal responses and functioning during face-to-face discussions. The length of observation time varied from 30 to 50 minutes according to the progress of student discussions. As shown in Figure 4.3, the voluntary groups sat in areas A, B and C. The observers sat in areas D and E, which afforded them a clear view of the students’ interactions from that vantage point.

*Figure 4.3: Observation spot*
With the consent of all the members, Groups 2, 5 and 7 were first chosen for observations that lasted for eleven weeks across the semester. In Week 6, Group 2 decided to withdraw after being observed twice. Students in Group 2 reported that they were not able to behave naturally while under observation, demonstrating that it is possible for participant observation to influence students’ natural behaviours. For this reason, Group 4 was then selected for voluntary participation to replace Group 2. Table 4.1 shows the observations conducted across the semester. It shows that Group 5 was observed four times, including two occasions in a trial lesson regarding one topic discussion during the first two weeks. Group 4 was observed three times and Group 7 was investigated twice.

**Table 4.1: Observation schedule**

<table>
<thead>
<tr>
<th>Project</th>
<th>Trial lesson</th>
<th>Main study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week</td>
<td>2 3 4 5 6 7 10 14 15 16 17</td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>5 5 2 7 2 4 5 7 4 5 4</td>
<td></td>
</tr>
</tbody>
</table>

The researcher conducted the observations by both observing and participating in varying degrees. Her role was to offer technical help, give guidelines, answer language-related questions, and encourage participation to a certain extent. To better capture students’ verbal responses in face-to-face interactions, a third-year university student was trained as a co-observer to assist with group observations. The function of this trained assistant was to improve the inter-reliability of the group observations.
Since this student assistant previously did not have experience as a co-observer, the researcher carefully trained her by thoroughly explaining the flow and the content of student discussion, which required to be recorded in the observation sheet. Training was carried out during the trial lesson in Week 2 for one hour. In Week 3 an initial observation was conducted to test inter-reliability and resolve apparent disagreements. Throughout the main study from Week 4 to 17, there was a discussion after each observation to ensure inter-reliability.

4.3.2 Focus Group Interviews

Focus group interviews were conducted to gather data to answer Sub-research questions 4 and 5 by eliciting more explicit collective perceptions from the students with regard to their learning gains and the key factors that influence learning in blended discussions. The goal of a focus group interview is to listen and gather information from a special type of group that has certain characteristics in common, with the purpose of understanding how the group members feel or think about a specific issue. Krueger and Casey (2009) define a focus group interview as a “carefully planned series of discussions to obtain perceptions on a defined area of interest in a permissive, non-threatening environment” (p. 2). In this study, focus group interviews were used to create socially constructed experiences through interaction in group discussions. Rich data may emerge from examining interactions within a focus group. In this case, interview data contributed in providing insights with regard to complex behaviours that
were observed in small group discussions, and thus served to complement observation data and to help refine the formality of questionnaire questions.

Focus group interviews mine the synergy that results when multiple respondents share perceptions, attitudes and opinions and at the same time query each other and explain themselves to each other (Morgan, 1996). This synergy of self-disclosure makes respondents more productive than in individual interviews, which have been criticised as being too directive and interviewer-dominated to be effective in achieving some conclusions (Chiu, 2006; Krueger & Casey, 2000; Morgan, 1996). The synergy of focus groups hence empowers individual EFL students to share their views freely and to respond to the ideas and comments of others in a safe and comfortable setting.

One of the strengths of a focus group is that it makes it possible for the researcher to observe the extent of consensus and diversity among respondents, and to make comparisons among the members’ experiences and views. In a group, people develop and express ideas that they might not have thought about on their own. In addition, the group helps to minimise the influence of the researcher’s presence, which might otherwise inhibit the students’ expressions of particular voices and feelings. Since the researcher was not the teacher of the class, her role as a moderator and co-listener in focus group interviews reduced the anxiety of the students and allowed them to truly express their feelings.
Interview Schedule

An interview schedule was used as a guide for the interviewer in conducting the interview and as a field note in which to record responses and answers (See Appendix 4). The schedule contained opening and closing statements as well as some general questions. Open-ended interview questions provide a framework of themes to be explored that the interviewer can keep in mind and use to keep the interview moving; the schedule renders greater flexibility, allowing for new questions to be brought up during the interview (Punch, 2005).

The following nine guiding questions were used to lead the interview:

1. How did you feel about your group discussions last month?

2. What did you like to do in group oral discussion? Why?

3. What did you like to do in group online discussion? Why?

4. After observing your small group discussion, I found that some/many people have been done ______. Why?

5. After observing your small group discussion, I found that less/no people have been done ______. Why not?

6. Do you like the way the discussions are programmed? Why and why not?

7. How did you feel about your online group critique last month?

8. How do the blended discussion tasks affect your language learning?
9. What are some advantages and disadvantages of the blended discussions?

**Focus Groups Procedures**

Groups 4, 5 and 7 were selected for voluntary participation in focus group interviews. Each group was interviewed once for two hours as seen in Table 4.2. All interviews were conducted in L1 by the researcher on a monthly basis from March to June, and audio recorded using an MP3 recorder. The interviews were conducted in a group meeting room in the Division of Continuing Education; this venue was chosen mainly because of the availability and quietness of the room, and because it furnished a comfortable atmosphere that put the students at ease, thereby supporting them in freely expressing their opinions and feelings (Taylor & Bogdan, 1984). It must be noted here that one student from Group 7 did not attend the interview because of the occurrence of some unexpected personal problems. It was arranged for the student to attend the third interview with other group members.

**Table 4.2: Timetable of focus group interviews**

<table>
<thead>
<tr>
<th></th>
<th>Interview date</th>
<th>Group</th>
<th>Number of students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st focus group</td>
<td>March 31</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>2nd focus group</td>
<td>May 19</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>3rd focus group</td>
<td>June 8</td>
<td>4, 7</td>
<td>3+1</td>
</tr>
</tbody>
</table>
4.3.3 Questionnaire Survey

A questionnaire was utilised to gather data to answer Sub-research Questions 4 and 5 that would cross validate the interview data. A self-administered questionnaire is considered the best method to elicit useful and appropriate information by asking about many things at one time, measuring many variables, and testing several hypotheses (Neuman, 2006). The quantitative design of the questionnaire increases the objectivity of the research by yielding numbers and statistics from the subjects, and it can be applied to a wider audience compared to interviews, which provides a distinct advantage. It is feasible for data collected from a small group of participants to be generalised to a larger population (McMillan & Schumacher, 1997).

Questionnaire Design

The questionnaire in this study was comprised of three parts: (1) demographic information, (2) students’ English learning background, and (3) students’ perceptions (see Appendix 5). The first part of the questionnaire consisted of questions pertaining to background information about the students, including gender, age, college, and department. The second part contained seven questions intended to gather information about the students’ English learning history, including the following: the number of years of studying English, their English proficiency level, their perceived English competence, their motivation for learning English, their English learning experiences,
their experience of online discussion, and frequency of their use of web translation machines.

The third part of the questionnaire probed the students’ perceptions related to seven categories. Answers were noted according to a five-level Likert scale ranging from “strongly agree” to “strongly disagree”; this design afforded the subjects greater latitude for thinking (McMillan & Schumacher, 1997). Finally, a blank column at the end of each category was designated for additional comments. In this column, students were allowed to express all their opinions in L1, their native language, as an incentive to elicit more student responses to supplement the Likert scale items.

Category 1 contained 13 closed-end questions designed to obtain information about the students’ perceptions of in-class small group discussion; Category 2 contained 11 closed-end questions designed to examine their perceptions of in-class online group critique. Category 3 contained 11 closed-end questions designed to enquire about students’ perceptions of out-of-class online group critique. These three categories were designed to gather evidence of student satisfaction, motivation, engagement, interaction, and perceived affective and cognitive gains related to the three discussion tasks.

Category 4 contained 13 closed-end questions designed to gather evidence of the students’ overall perceptions of the blended English learning. Category 5 contained 14
closed-end questions designed to enquire about the students’ perceptions of their interaction and participation in blended discussions as compared to traditional classroom learning. Category 6 contained 11 closed-end questions designed to gather evidence of students’ perceptions of the impact of the blended discussions on their language competence. Category 7 was designed to obtain information about possible factors that may influence student learning in blended discussions. Twelve predetermined factors were listed in this category.

**Questionnaire Procedures**

A Chinese translation of the questionnaire, which was certified by a qualified translator with NAATI accreditation (National Accreditation Authority for Translators and Interpreters Ltd), was used to help the students to better comprehend the questions. The questionnaire was pilot tested on ten freshmen from another class at the same university prior to its implementation in this research. Advice and comments from this pilot group were incorporated in the final questionnaire. The pilot test was administered to confirm that the questions were clear and could be answered with ease, as well as to ascertain that the wording was unambiguous and answerable.

The design included distribution of the questionnaire to volunteer participants at the beginning of class in Week 18; this was devised as a workshop session that would contain perceptions and feedback from all the participants. The questionnaire was
administered by the researcher in face-to-face encounters so that the participating students could clarify their questions with the researcher in the language laboratory, thus raising the completion rates. The questionnaire was designed to be non-anonymous in order to facilitate follow up, and post-survey phone calls were made to clarify responses where the answers were unclear. Students who were not willing to participate in a follow-up were not required to include their personal information on the questionnaire.

4.3.4 Online Discussion Logs

Students’ online discussion logs were employed to gather evidence of their online interaction and process of meaning construction, in order to answer Sub-research questions 2 and 3. Student responses recorded in the online logs revealed the online interactions and written communications taking place during the time that the students were performing three online discussion tasks. Students logged in to different forums to perform different discussion tasks on a weekly basis. After discussion, online logs pertaining to small group discussions were directly archived in a group forum area accessible only to group members (see Figure 4.4), whereas online logs from group critiques were archived in a main discussion board area that was accessible to every student (see Figure 4.5). Both the students’ comments on arguments of the assigned group and their responses to others’ comments regarding one discussion topic discussion were collected for analysis. Although there were ten groups discussing 11
controversial questions from Week 2 to Week 17, only the online logs from Groups 4, 5 and 7 were selected for analysis to complement the data derived from observation of these three groups.

**Figure 4.4: Group discussion forum**

![Group discussion forum](image1)

**Figure 4.5: Discussion board for group critique**

![Discussion board for group critique](image2)
4.3.5 Data Collection Procedures

Orientation

The procedure for data collection can be found in Appendix 6; as illustrated, the procedure started with an initial session -- an orientation -- to help students understand the subject outline (see Appendix 7) and course tasks as well as to give them the opportunity to become familiar with other students and with the online learning environment. During the orientation, the students were given a participant information letter (Appendix 8) that explained the purposes and methods of the study and invited them to participate in the research but did not offer too much information, to avoid the possibility of creating a bias. A consent form (Appendix 9) was also distributed to ascertain in which research tasks -- observations, focus group interviews and a questionnaire survey -- students would be willing to participate.

A Trial Lesson

A trial lesson was conducted in Weeks 2 and 3, with the aim of observing students’ initial reactions to the course design. Week 3 was designed as a follow-up session in the event that the trial lesson showed the need to make modifications. Two questions were originally designed for students to discuss on a weekly basis. The first was a comprehension question and the second was a controversial question, as shown in Table 4.3. In the laboratory, students were first required to have a discussion with their group members and produce a group argument. After that, they were assigned to comment on
the argument of the other group and defend their own as well. This trial lesson was created to help both the instructor and the researcher to decide on a more appropriate course design.

**Table 4.3: Questions discussed in the trial lesson**

<table>
<thead>
<tr>
<th>Group</th>
<th>Discussion questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1-5</td>
<td>Q1: What are your arguments on the differences of an M-shaped society to a normal social system? Do you agree that M-shaped society is an unavoidable social issue?</td>
</tr>
<tr>
<td></td>
<td>Q2: If you were given power in the executive office, in congress what would you present in canvassing supporters to help alleviate this situation? Justify your answer.</td>
</tr>
<tr>
<td>Group 6-10</td>
<td>Q1: Does the model of M-shaped society reflect Taiwan’s economic changes? Why or why not?</td>
</tr>
<tr>
<td></td>
<td>Q2: If you were given power in the executive office, in congress what would you present in canvassing supporters to help alleviate this situation? Justify your answer.</td>
</tr>
</tbody>
</table>

**Main Study**

After the trial lesson, some modifications were made to improve the course design. This revised course design was then used in the main study to gather data with which to answer all the research questions. The main study began from Week 4. All the students were required to experience small group discussions every week, as well as in-class group critique and out-of-class group critique in turns across the semester. The main study involved observation and recording of student interactions and group processes of meaning construction while the participants were performing the three discussion tasks. In addition, student volunteers were expected to participate in focus group interviews.
and to complete a questionnaire in order to gather evidence of the students’ perceived learning gains and key influential factors. All the data that were used for analysis were derived from this main study.

4.4 Research Design

4.4.1 Research Settings

Institutional Context

The research was situated at a private university in the south of Taiwan where English is used as a foreign language; it is a comprehensive university which has existed for 25 years, having been established in 1986. The university has six colleges, 35 departments and three educational centres with a student population of approximately 14,500 at the time of this research. It offered seven doctoral programs and 18 master programs, encouraging students to become involved in interdisciplinary research and to pursue both theories and practices to achieve a balance between teaching and research. The features of the university and the consent from both the Centre of General Education and the instructor rendered it an appropriate institution for the purposes of this research.

Research Course

The research was conducted in the spring semester of 2010, from March to June. The spring semester is the second semester in the Taiwanese educational system. The research course was offered by the Centre of General Education, which planned English
courses for all non-English majors. These courses were compulsory for non-English major freshmen and sophomores, but elective for university students in their third or fourth year. All non-English major freshmen were required to take a six-credit ‘Practical English’ course, and all sophomores were required to take a two-credit ‘English listening and speaking’ course. The English courses offered by this centre, according to the course outline, (see Appendix 7), had a twofold objective: first, to enhance one’s ability to use languages; and second, to help establish an all-encompassing development of the knowledge and skills necessary for competition in a wide range of endeavours.

With the instructor’s consent to cooperate with this project, the freshman English course (Practical English) at the intermediate level was used to conduct the research; this was a six-credit course that required two semesters to complete. Practical English was divided into three levels – elementary, intermediate and advanced – and were assigned to students on the basis of an entry-placement test for college freshmen upon admission. The course was designed to accomplish three goals: first, to foster students’ English learning experiences through both classroom and online learning; second, to enhance the ability of the students to think, discuss, and report on various topics; and third, to help increase the students’ motivation toward the goal of becoming an engaged and self-regulated English learner. The course was conducted on a weekly basis in a total of 18 weeks and mainly delivered in L1, with English used only for drills in English pronunciation and sentences.
Classroom Setting

The course was conducted for 150 minutes in a digital language laboratory, as shown in Figure 4.6. This language laboratory was developed in 2003 to meet the pedagogical needs of language instructors, the learning needs of language students, and the cost-benefit needs of school administrators. It was equipped with 80 networked computers that incorporated audio, video, pictures, text, and web resources. Students in the laboratory were allowed to develop their language skills individually or in groups. Each student in this study had his or her own computer with an Internet connection. To achieve the learning objectives of the course, online discussion using a threaded discussion forum was made a required learning task, thus integrated as part of the English instruction.

Figure 4.6: A digital language laboratory
Online Environment

The online discussion tool, a threaded discussion forum, was adopted via the online Blackboard Learning System. The decision to utilise Blackboard was made because of the availability and functionality of the system. As illustrated in Figure 4.7, Blackboard was purchased by the university and well developed in 2008 as a supplementary delivery system for e-learning. The Blackboard Learning System is a virtual learning environment that uses a web-based server software platform; it has been used worldwide as an effective online course management tool with user-friendly functions that include communication and content. Communication encompasses functions such as announcement, chat, threaded discussion boards, and emailing. Content offers functions such as course content, calendars, assignments, assessments, grade book, etc.

Figure 4.7: Discussion board on Blackboard Learning System
This threaded discussion forum embedded in this online environment provides significant features to sustain learning, particularly EFL learning. First, a threaded discussion forum sustains in-class or out-of-class learning because it can be added to traditional face-to-face courses or be developed completely online. Second, since it is a form of communication that does not depend on time or place, group members are able to interact with others anywhere and anytime without time and space constraints. Third, the delayed-time nature of the forum affords learners more time to structure their thoughts in a non-stressful environment. Fourth, it allows multi-way communication, thus creating opportunities for many-to-many interactions. This study employed the threaded discussion forum for both in-class and out-of-class discussion tasks.

4.4.2 Research Participants

The subjects were selected by means of a purposive sampling strategy, which involves the use of a non-random sample that allows the researcher to identify particular types of cases for in-depth investigation in order to gain a deeper understanding of the types (Neuman, 2006). With the instructor’s consent, a class of non-English major undergraduates was used as the sample for the study. In L2 CMC-based research, little attention has been given to non-English majors. This particular sample, consisting of 49 students and one instructor in the course, may offer new insights into CMC research. The following section describes the participating students and the instructor in greater detail.
**Participating Students**

The participating student group consisted of one class of the EFL undergraduates. Forty-seven freshmen and two sophomores enrolled in the course after adds and drops, resulting in a total of 49 students. The two sophomores were repeating the Freshman English course because they did not pass it the first time. Although the students in this sample group course might have had English learning experiences from different types of schools, they were all categorised as having attained a similar level of language study. After one-semester English study in this university, students were assigned to take the National English Test in Proficiency for All on the Web (NETPAW) to evaluate their English proficiency. Upon graduation from university, all university students are required to pass a nationally standardized entrance exam, the General English Proficiency Test (GEPT). There were 24 males and 25 females in the group, ranging in age from 18 to 20, all of whom were non-English majors from ten different departments in the College of Management. None of the students had prior experience of online discussion as part of an English course. Figure 4.8 shows the number of students from each department:


**Figure 4.8: Number of participating students**

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Engineering &amp; Management</td>
<td>24</td>
<td>4</td>
</tr>
<tr>
<td>Business Administration</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Finance</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Public policy &amp; Management</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Tourism</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Leisure Management</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Hospitality Management</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>International Business</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Materials Science &amp; Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total participants</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

**Participating Instructor**

The participating instructor was a full-time assistant professor at the Centre of General Education as well as the Dean of the Division of Continuing Education. She held a Doctor of Philosophy degree in Linguistics from a university in France. She had been a foreign language teacher at various places in Taiwan from 1988 to the time of this research, and had been teaching English at the Centre of General Education for the past five years. Her research skills and interests were focused on computational linguistics, foreign language teaching and languages for specific purposes, as well as translation.

Although she had no experience with integrating online discussion into traditional English instruction prior to cooperating with this research, she was keenly interested in ICT application for this purpose. She believed that the use of ICT would provide EFL students more opportunities for learning as well as improve the participation and interaction among students.
4.4.3 Course Materials

There were three types of reading materials used for the course -- teacher-assigned articles, student selection of articles, and outside reading articles. The teacher selected four articles from an English textbook entitled *Reading Pass 3* to be used in both lecture and discussion. *Reading Pass* was used during the first semester and the instructor decided to continue using some articles from that text in the second semester. All students in this class had purchased this textbook. *Reading Pass* (Bennett, 2010) was a three-level series text with integrated skill building and meaningful content. At the core of each unit was a reading passage, with interconnected vocabulary, listening, speaking, and other activities. Topics were selected from a wide range of fields, including business, technology, health, entertainment, and the environment. Four chosen articles were “M-shaped society”, “Space colonies”, “Lost arts”, and “Taiwan’s Hi-tech future”.

Students in each group were required to select one article related to their major knowledge to use in their group presentation. They were allowed to choose any topic of interest that included controversial issues. The ten articles chosen were: “Why CEOs matter?”, “Smelling of Roses”, “Developing the next generation of Chinese business leaders”, “The major causes of global financial crisis”, “On the record”, “Financial accounting”, “Financial accounting and tax principles”, “A science of politics”, “Tourism today”, “Tourism and globalization”. These articles were sourced from books,
magazines, and conference papers. Six of the topics selected from the above ten articles were used for discussion. All the articles were uploaded before class to the “Group documents” on the Blackboard Learning System for students to download.

Outside reading articles were used as supplemental material for discussion tasks connected to the topics of the lecture or student presentation. Ten articles were sourced by the researcher from online websites, personal blogs or newspapers: “Theory of M-shaped society”, “About space colonies”, “Traditional handicrafts-Embodiments of Taiwan’s Native Culture”, “The story of Taiwan-Science and technology”, “What do CEOs do? A CEO job description”, “Leadership development in China: Challenges and Solutions”, “Debt collection with a twist”, “Taiwan-US beef trade talk”, “Tourism”, “Strategic alliances why and how”. Students could download these articles from the “Group documents” on the Blackboard Learning System before class. A detailed list of the course materials and topics can be seen in Appendix 10.

### 4.4.4 Course Tasks

After several discussions with the instructor prior to the start of the semester, three types of course tasks were designed: formal lecture, student presentation, and discussion tasks via discussion forum. The rationale for the course design was the idea that mediation through explicit face-to-face instruction from the instructor and reflective discussions from the students would maximize classroom interaction and lead to more cognitive,
affective and language gains. This result would fulfil both the teaching objectives and
the learning needs of the students.

All students participated in the three course tasks; they were randomly assigned to
groups of four or five after adds and drops, based on their majors, including those who
chose not to participate in the study. The class was divided into ten groups, with all
participants and non-participants in the same class. In the event that any of the willing
participants withdrew from the study, they would still remain in the class because
participation in online discussion comprised a portion of all students’ final grades. Each
group was arranged to sit together in an area that was convenient for both face-to-face
and online discussions.

The three major discussion tasks consisted of an in-class small group discussion, an
in-class online group critique, and an out-of-class online group critique. These
discussion tasks were goal-oriented and were performed sequentially, as shown in
Figure 4.9. Each week focused on one particular topic based on the assigned reading
articles, with the discussion moving on to a new topic the following week. All students
used their real identities, including Chinese names and student ID numbers, to access
and participate in the online discussions. To protect their privacy, all students were then
assigned a pseudonym to use in the research report. The time allocated for each type of
course task was subject to change according to the students’ actual learning progress.
Assessment of student performance was divided into four parts: student presentation (30%), online discussion (30%), mid-term exam (20%), and final exam (20%). These four assessments comprised the student’s final mark. The course task model is illustrated below:

**Figure 4.9: Weekly course tasks**

![Weekly course tasks diagram](image)

**Formal Teacher-led Lecture**

As shown in Figure 4.9, the first period of the course was dedicated to formal lecture. These teacher-led lectures were aimed at improving reading comprehension by providing background knowledge and explicit explanations of English text (word or sentence meanings) and linguistic rules (grammar or sentence structures), with the
purpose of activating students’ prior knowledge and assisting in the further development of ideas for subsequent online discussions. The instructor lectured for 50 minutes on a total of four topic articles from Weeks 2 to 6. The lecture was delivered in L1. The use of English was limited only to oral drill practice of pronunciation and sentences.

**Student Group Presentation**

Another course task involved in the first period from Week 7 was student group presentations. Each group was required to present information relevant to the article that the group had previously selected in connection with their major knowledge. Students in the groups that were not presenting were able to download the chosen article in “Group documents” on the Blackboard Learning System so they could study the material before class. Group presentations were intended to reinforce the students’ professional knowledge and English proficiency, and exercise their reporting ability through a presentation of the main ideas in the article and an explanation of the meaning of the English text. The presentations lasted from 50 to 100 minutes depending on the difficulty and length of the article. Students in the presenting group were required to read the article in English and explain, in Chinese, its main ideas and the meaning of the text. To ensure fairness in marking, the group was required to submit a list specifying how the work was distributed among the members. The instructor provided feedback and asked the other students to comment on the presentation in class.
In-class Small Group Discussion

In-class small group discussions were carried out during the second period of the course. Students were required to read another assigned outside reading article that could be downloaded online before class, to help them better understand the topic under discussion in the upcoming lecture or student presentation. Prior to this topic discussion, however, the instructor provided feedback with regard to the discussions that took place the previous week, and corrected the main English errors that occurred during those discussions. After that, the instructor proceeded to the current week’s discussion question, reviewing the main concepts in the assigned article and providing guidelines for discussion. This process was intended to help students ascertain what direction the discussion should take, so they could engage more effectively in the discourse.

Students were required to answer open-ended questions (Appendix 11) relating to the topics and issues that were covered in their group discussions. Three types of questions were designed, categorised as agree or disagree, problem-solving, and debate. Students were free to express their thoughts, discuss their opinions and share their experiences either verbally or online in order to ensure that all group members had full knowledge of each other’s’ views. To achieve a fair share of work among the members, each student was required to contribute two online postings to group discussions. The students were encouraged to engage in online discussions supplemented and supported by face-to-face interactions. Students were allowed to talk with each other while online.
Group members were asked to synthesize all opinions and produce a group argument in response to the question. The group argument was then to be posted on the discussion board and used in the subsequent group critique task; this task typically lasted from 30 to 50 minutes depending on the progress of student discussions.

**Online Group Critique**

Online group critique tasks, both in-class and out-of-class, occupied the third period of the course. After small group discussions, the instructor would assign two groups to exchange feedback and to respond to the comments they received by relating the observations to their own experience. This task, which was undertaken fully online via the threaded discussion forum, was assigned as a means of eliciting greater insights into the issues under discussion, through the exercise of considering and responding to arguments. The students were required to achieve the task goal of modifying their group argument by revising the texts and the organisation.

In-class online group critique involved the discussion of five topics, with each topic discussion lasting 30 minutes each week. In order to make the most effective use of time, the instructor randomly assigned two of the groups who had already completed their group arguments to be the first ones to do this task. The groups that completed their group arguments early were allowed more time for this activity. Students were not permitted to communicate offline with other group members. Out-of-class online group
critique required the discussion of four topics, with each topic discussion lasting one week. The instructor randomly assigned two groups to exchange comments and to respond to the feedback after class time. For this exercise, students were required to use English for online discussion, but were allowed to use a limited amount of Chinese to help them fully express their thoughts.

**Assessment of Online Discussion**

Online discussion comprised 30% of the students’ final semester mark, and was gauged according to the quality and quantity of their postings (Table 4.4). The assessment was divided into two parts -- group and individual discussions. Half of the grade (15%) was allocated to the weekly argument produced by each group with the other half (15%) allotted to the individual’s group critique postings. In order to promote individual participation in group critique, the quantity of the postings was worth 5% of the assessment while their quality was worth 10%, as shown in Table 4.4.

**Table 4.4: Marking Rubrics of online discussion**

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group online discussion</td>
<td>15% (Weekly group argument)</td>
</tr>
<tr>
<td>Individual online discussion</td>
<td>15%</td>
</tr>
<tr>
<td>Quality of the postings</td>
<td>10% (Relevance: 3%; Originality &amp; value: 4%; quality of writing: 3%)</td>
</tr>
<tr>
<td>Quantity of the postings</td>
<td>5% (1 response: 1%; 2 responses: 3%; 3 responses: 4%; 4 or above: 5%)</td>
</tr>
</tbody>
</table>
4.5 Data Analysis

This research employed a combination of deductive and inductive approaches for data analysis, as shown in Figure 4.10. The analysis began with a collection of concepts and ideas formed from inductively derived insights obtained through discussions, observations, focus groups and a questionnaire. These findings were not used to build a new theory but rather to link and support the theory adopted in this research, which reflects an inductive approach. On the other hand, the theoretical framework based on sociocultural perspective was used to interpret the data relevant to student learning in terms of interaction, processes of meaning construction, and perceptions, which applied a deductive approach. The data gathered was analysed by using the following four techniques to answer the research questions:

Figure 4.10: Data analysis approach

4.5.1 Content Analysis: Interaction Process Analysis (IPA)

The coding framework shown in Table 4.5 was used to analyse face-to-face group interaction in small group discussion assisted by both face-to-face and online
interactions. This framework was revised and expanded by Chou (2002) based on Bales’ (1950) Interaction Process Analysis model. Bales’ IPA, which was developed to study small group interaction, provides a systematic method for analysing the interaction process by classifying group behaviour act by act in small face-to-face groups. The original IPA consists of 12 complementary-paired group processes that are further subdivided into four major functions to describe communication issues or problems, as shown in Appendix 12. These four functions relate group interaction processes to socio-emotional reactions and group task purpose.

Employing Bales’ IPA, Chou (2002) divided Category 6 and 7 of the IPA model into three sub-categories to reflect the actual online interaction patterns in synchronous discussions (see Appendix 13). Technical question, topic-specific discussions and personal information exchanges were added to reflect computer-mediated group interaction. In this study, students were allowed to communicate either verbally or online during small group discussion. Face-to-face group interaction was used to supplement computer-mediated group interaction. For this reason, Chou’s revised IPA model fit the study well. However, since the research was focused on group interaction relating to task processes, socio-emotional reactions were excluded (Table 4.5).
Table 4.5: Coding framework for the analysis of small group face-to-face interaction

<table>
<thead>
<tr>
<th>Code</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task Area: Attempted Answers</strong></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Gives suggestion, direction, implying autonomy for other</td>
</tr>
<tr>
<td>5</td>
<td>Gives opinion, evaluation, repeats, analysis, express feeling, wish</td>
</tr>
<tr>
<td>6</td>
<td>Gives orientation, information, repeats, clarifies, confirms</td>
</tr>
<tr>
<td>6.1</td>
<td><em>Gives personal information</em></td>
</tr>
<tr>
<td>6.2</td>
<td><em>Gives topic-related information</em></td>
</tr>
<tr>
<td>6.3</td>
<td><em>Gives technical information</em></td>
</tr>
<tr>
<td><strong>Task Area: Questions</strong></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Asks for orientation, information, repetition, confirmation</td>
</tr>
<tr>
<td>7.1</td>
<td><em>Asks technical information</em></td>
</tr>
<tr>
<td>7.2</td>
<td><em>Asks topic-related information</em></td>
</tr>
<tr>
<td>7.3</td>
<td><em>Asks personal information</em></td>
</tr>
<tr>
<td>8</td>
<td>Asks for opinion, evaluation, analysis, expression of feeling</td>
</tr>
<tr>
<td>9</td>
<td>Asks for suggestion, direction, possible ways of action</td>
</tr>
</tbody>
</table>

* Categories in italics are additions to the original IPA.

Descriptions of Categories

According to Bales (1950), the observation of an interaction system demonstrates an ongoing process in a problem-solving sequence. Six interlocking functional problems are logically applicable to each concrete type of interaction system, as shown in Appendix 12. In terms of task processes, the categories of asking for and giving information relate to problems of orientation. The categories of asking for and giving opinions pertain to problems of evaluation. Problems of control are classified into the
categories of asking for and giving suggestions. Table 4.6 describes the definitions of each category and its relevance to the corresponding functional problem.

Table 4.6: Bales’ definitions of task-oriented categories

<table>
<thead>
<tr>
<th>Definition</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task-asking processes</td>
<td></td>
</tr>
<tr>
<td>Ask for suggestion</td>
<td>c</td>
</tr>
<tr>
<td>Ask for opinion</td>
<td>b</td>
</tr>
<tr>
<td>Ask for information</td>
<td>a</td>
</tr>
<tr>
<td>Task-giving processes</td>
<td></td>
</tr>
<tr>
<td>Give information</td>
<td>a</td>
</tr>
<tr>
<td>Give opinion</td>
<td>b</td>
</tr>
<tr>
<td>Give suggestions</td>
<td>c</td>
</tr>
</tbody>
</table>

*Functional codes: a-problem of orientation, b-problem of evaluation, c-problem of control

Unit of Analysis

The IPA model uses a “unit of speech or process” as the unit for coding and analysis. The unit of speech refers to sentences or utterances. Each single simple sentence is identified as a single act. However, after initial observation, it became evident that this unit of analysis based on a single sentence was not feasible for this study. It was not possible to produce clear recordings of the verbal utterances of students by means of audio or video techniques because of the arrangement of the language laboratory and the low volume of the students’ voices during discussions. To avoid influencing the
students’ natural interactions, the researcher was thus confined to handwriting notes about their verbal interaction around themes within a dialogue. For this reason, themes were assigned to serve as the unit of analysis for this study. Each theme that appeared in a dialogue was thus classified into Bales’ task category according to its definition, as shown in Table 4.7.

Table 4.7: An example of classifying themes into Bales’ categories

<table>
<thead>
<tr>
<th>Themes appeared in the dialogue between Tian and Hao</th>
<th>Bales’ Task processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Tian asked Hao about which forum to access for discussion</td>
<td>• Ask for suggestion</td>
</tr>
<tr>
<td>• Hao showed Tian how to get to the right forum</td>
<td>• Give suggestion</td>
</tr>
<tr>
<td>• Hao enquired Tian about the meaning of the discussion question</td>
<td>• Ask for language-related information</td>
</tr>
<tr>
<td>• Tian explained the meaning of the discussion question to Hao</td>
<td>• Give language-related information</td>
</tr>
</tbody>
</table>

Coding Processes

Coding was conducted using a code-recode protocol as shown in Figure 4.11. Three coding events were put in practice to establish reliability. The first one took place in August 2010; the results were tabulated and imported into the Excel spreadsheet program. After the first coding, it was found that Chou’s revised IPA model as shown in Table 4.5 successfully reflected students’ face-to-face interaction in a group discussion, and that using themes as the unit of analysis was an effective device for interpreting the interaction processes. The second coding was conducted two months after the first one, with the last coding carried out two months after the second. Several codes were added.
and deleted between the last two coding events. Coding was conducted by the researcher. An agreement level of 85% was achieved between the second and the third coding.

4.5.2 Content Analysis: Online Interaction Analysis Model

A revised and expanded Zhu’s model (1998) was adopted as an analysis parameter to analyse students’ online interaction. Based on a combination of Vygotsky’s learning theory and theories of cognitive and constructive learning, Zhu’s model built on the concept of ZDP and on Dewey’s (1933) notion of reflective thinking and relied on the underlying theoretical framework to establish its validity (Garrison, Cleveland-Innes, Koole, & Kappelman, 2006). The model was created with the intention of providing a way to investigate social interactions as a means of understanding the social aspect of learning and intellectual development. For this reason, the modified Zhu’s model fit the theoretical framework of this study, which was also applied with the purpose of achieving an understanding of how social interaction occurs during the active process of engaging in reflective discussion tasks that lead to collaborative construction of meaning.

Description of Categories

Zhu (1998) provided a coding scheme (Appendix 14) which identified two types of social interaction: vertical and horizontal. Vertical interactions are those in which “group members will concentrate on looking for the more capable member’s desired
answers rather than contribute to and construct knowledge”, while horizontal interactions occur when “members’ desires to express their ideas tend to be strong, because no authoritative correct answers are expected to come immediately” (p. 824).

Zhu’s coding scheme encompasses eight categories of online interaction in which information-seeking questions (Type I questions) are considered a form of vertical interaction, while horizontal interaction includes the following seven categories: discussing questions (Type II questions), answers, information sharing, discussion, comment, reflection and scaffolding.

After three initial coding events, the researcher concluded that it was necessary to revise and expand Zhu’s coding scheme in order to produce a better presentation of online interaction functions in small groups. This revision had to provide a better identification of the functions of interaction rather than the types of interaction. To this end, two new categories -- “Social talk” and “Synthesizing” -- were added to those identified as horizontal interactions. Each category was defined in great detail or classified into subunits by providing examples in the coding manual (see Appendix 15). The changes and additions to the coding schemes are the researcher’s original work and contribution to the field in terms of research methodology. This process helped the researcher to accurately code the functions of interaction and to understand students’ actual online responses in discussions. Further clarifications of the revised categories were delineated by the researcher as follows:
Chapter 4 Research methodology

1. Type I questions and Type II questions were both included in the category of Question. Elaboration requests, explanation requests, clarification requests, and information requests were also considered to be part of this category. These interaction functions were found in those online discussions that led to an inquiry requiring with/without direct or correct answers.

2. The definition of a discussion in the original scheme was too broad. In this research, discussion was defined as “expressing thoughts” and “elaborating opinions or responses” so as to reflect different levels of the actual online interaction functions.

3. A comment was explicitly defined as a remark that expressed agreement or disagreement, or one that provided affirmative or negative feedback. Comments were described as either “non-substantive” or “substantive”. Non-substantive comments are those that merely state the speaker’s position without including justification for that position, such as the statement “I agree”, whereas substantive comments offer some justification or explanation of the speaker’s position.

4. The scaffolding function of interaction was divided as either providing guidance for others or error correction. Guidance was defined as general advice that more capable discussants offered to less capable ones. Language error corrections often appeared in discussions that were focused on language learning. These corrective comments were therefore included in the scaffolding category.

5. Social talk was added as a new category that referred to acknowledging information
and expressing apologies, after some short and informal expressions of this type were found in students’ online discussion.

6. Synthesizing was also added as another new category to cover the instances when students joined together to synthesize the opinions of group members or to compile related information. This type of interaction appeared in those discussions that related to the production of a group argument.

Unit of Analysis

Instead of dividing messages into units of meaning or ideas (Henri, 1992), Zhu (1998) used entire messages as the unit of analysis in order to capture the essence of meaning expressed in the message. This method has been considered to be the most objective identification of units of analysis (Rourke, Anderson, Garrison, & Archer, 2001) because it is not too complex or too detail-oriented (Garrison, Cleveland-Innes, Koole, & Kappelman, 2006). The researcher conducted three initial coding events to ascertain that the use of the entire message as the unit of analysis would fit this research. Owing to their limited English proficiency, EFL undergraduates were not fully capable of expressing various meanings or ideas in one online posting. Coding their online discussions by using an entire message made it possible to capture the main idea expressed in each online posting. Those instances where two diverse ideas appeared in one online posting were coded as two messages in one online posting, which presents a more accurate view of the student’s online interaction.
Coding Processes

Zhu (1998) did not report any information with regard to inter-rater reliability; to address the issue, this research relied on three initial coding events to evaluate the reliability of the revised coding scheme based on Zhu’s model (Figure 4.11). After the coding scheme was finalised, a coder with previous research experience in Engineering was selected and provided with a brief introduction to this research, along with concepts of coding framework and coding techniques, as training for subsequent coding of students’ online discussion logs with the researcher. After the coder was trained, the researcher randomly selected two discussion logs for an initial coding. A discussion arose as a result of some apparent disagreements. After this deliberation, another two discussion logs were randomly selected for the second and third coding, respectively. After the third coding, an agreement level of 86% was achieved. The researcher then coded the rest of the online discussion logs from Groups 4, 5 and 7 according to the agreements reached in the third coding.

4.5.3 Transcript Analysis

Transcript analysis was employed to analyse the transcripts of focus group interviews transcribed from the audio recording. Open and axial coding were sequentially applied to the analysis process (Figure 4.11) to obtain reliable and valid data (Neuman, 2006). Open coding was performed as a first step in which the data was read, re-read many times, and condensed into categories such as themes, issues, topics, concepts or
propositions (Burns, 2000; Neuman, 2006). The second step -- axial coding -- was carried out to review and organise a set of initial code themes that could be used to make connections among themes. Considering the possibility that particular issues might arise consistently across interviews, the second coding began while the data were still being collected.

NVIVO, a Qualitative Data Analysis (QDA) software package, was used to assist in the analysis of interview transcripts. This software renders the interview data more manageable and ordered to facilitate analysis, as well as allowing for the creation of transcripts or text files, sorting and analysing audio and text documents (QSR International NVIVO, 2007), coding data, making links between codes or ideas (Bringer, Brackenridge, & Johnston, 2002), and searching data by dimensions and categories (Gibbs, 2002). For these reasons, NVIVO was employed as a useful tool for analysing the interview transcripts.

4.5.4 Descriptive Analysis

The questionnaire data were subjected to descriptive analysis which is a strong vehicle for depicting the frequency of individual values or ranges of values for a variable (Ryan, 2003). To analyse quantitative data, a coding procedure was created in the form of a set of rules to apply to assign numbers to variable attributes; the data were entered by using the Statistical Package for Social Science (SPSS) Program. SPSS is a powerful software
that is used to create variables and define coding variables and their values, as well as to
code missing data and show both numerical data and graphical representations (Field,
2005). To increase the validity of measures and avoid misleading results, the data were
further cleaned or checked for accuracy of coding (Figure 4.11). SPSS accurately
calculated numbers of demographic data and perception data in percentage form to
show the frequency distributions, the number or percent of cases in each category.
Percentage frequency distributions in this research are displayed as bar graphs and pie
charts that express the relative frequency of survey responses.

**Figure 4.11: A flow chart of coding processes of qualitative and quantitative data**

**4.6 Ethical Considerations**

In this research, the first ethical issue to consider was the nature and the manner of
participation. Participation in this study was entirely voluntary, and resulted from an
invitation to participate that was extended to volunteer students and the teacher. Volunteers were under no obligation to complete the study; students who began to participate and later changed their minds were allowed to withdraw from the study at any time, free of any obligation. Participation/non-participation did not impact in any way on regular learning or assessment programs.

Other ethical considerations pertained to the issues of privacy, anonymity and confidentiality. The privacy of all the participants was ensured, respected and treated with dignity in order to avoid discomfort and to build mutual trust during the process of data collection. Any personal information disclosed by participants remained confidential and pseudonyms were used for all participants in place of their real names in the data analysis process. The real names of all participants did not appear on any transcripts nor were they referred to in any way that might reveal participant identities.

No data in this research were fabricated, plagiarised or falsified in any manner. All sources have been properly and correctly acknowledged. The original data will be kept secure for a period of seven years during which only the researcher had access to the data. Ethical approval was sought from the University of Sydney and the Centre of General Education at I-Shou University. The letters of approval are shown in Appendices 17 and 18.
4.7 Summary

In alignment with the purposes of this research, an embedded case study that allowed in-depth observations across groups in a large class was found to be particularly suitable for this project. A mixed methods approach using both qualitative and quantitative methods was employed in this research. The qualitative methods were followed by the quantitative methods, with the former carrying more weight. This mixed methods approach was equivalent to QUAL→quan design. The four main instruments utilised to collect data for analysis in this study were participant observations, focus group interviews, questionnaire and online discussion logs. Triangulation of data sources augmented and reinforced the overall quality and trustworthiness of the research.

A class of EFL undergraduates was randomly grouped to participate in three blended discussion tasks. To make the data manageable for analysis, only three groups were selected for observation and focus group interviews. Online logs of these three groups were also analysed. To complement qualitative data, a whole-class survey questionnaire was administered. An analysis of all the data obtained was carried out in the form of content analysis, transcript analysis, and descriptive analysis with the purpose of answering all research questions. Information pertaining to the process of reporting findings after data analysis will be covered in the next chapter.
CHAPTER 5

FINDINGS OF SMALL-GROUP-DISCUSSION TASK

This chapter is organised into three sections to detail the dynamics of student performance in a small-group-discussion task, based on the data collected from the three groups observed. General results across the three groups will be applied to answer Sub-research questions 2 and 3 in the subsequent discussion chapter. Section 5.1 begins with a brief profile of the three observation groups by introducing some background information of the participants, followed by an overall description of the group functioning in Section 5.2 and the process of meaning construction in Section 5.3, based on an analysis of the observation data and online logs. The students’ individual and collaborative attempts during the process are also discussed. The interview data are selected in part to complement the group process observation.

The three groups of students worked cooperatively and collaboratively through face-to-face and online interactions in varying degrees; this chapter particularizes those interactions in both face-to-face and online contexts. Analyses of face-to-face interaction as well as online participation and interaction were conducted in the interest of providing a better understanding of the dynamic processes of small group discussions. Each group was analysed separately, applying the data from group observations, student focus group feedback, and discussion logs. The results reported in each section begin
with an overall description of the three groups as a case, followed by an exploration of the salient similarities and differences across all the groups.

5.1 Group Profiles

Three groups of 14 undergraduate students in a Taiwanese university were observed while they were undertaking a small-group-discussion task. The participants were randomly assigned to work in a group of four to six, based on their majors. Although some students with different majors were grouped together because there was an uneven number of participants after adds and drops, these mixed groups were formed by means of a random process. There was an equal number of male and female students, all from different departments of the College of Management, with each group sharing a homogeneous background in terms of age, and cultural and academic experiences. To supply the reader with a clear picture of the three groups observed, Table 5.1 includes a brief profile of each in terms of the participants’ ages, genders, majors, English learning backgrounds and online learning experiences. The data presented in the profile were based on the survey questionnaire collected from these students.

Five students in observation group 1 (OG1) – three females and two males – shared highly different backgrounds with regard to English learning, proficiency, motivation, online learning experience and dependency on translation machines. The group included four students from the Department of Finance and one from the Department of
Chapter 5 Findings of small-group-discussion task

Materials Science and Management, ranging in age from 18 to 20 years old, with seven to ten years of English learning experience. Two of these students had passed the intermediate level proficiency test based on NETPAW; the other three had scores ranked lower than intermediate level. The combined characteristics of the students indicated that the participants could be identified as basic users of English whose proficiency was still at the developing stage.

NETPAW is a national online testing system of English language proficiency. Its specific aim is to promote online English language learning and improve English proficiency of the nation. It sets out to create an efficient testing system that would be motivating through its ability to provide feedback on students’ test results via the computer. NETPAW is seen as providing a baseline for English proficiency improvement. The first five levels of proficiency are “Beginning”, “Basic”, “Low-intermediate”, “Intermediate”, and “High-intermediate”. The higher levels are “Advanced” and “Professional”. NETPAW is able to test all four macro skills of listening, speaking, reading and writing, and is criterion-referenced. The use of the web is expected to facilitate and encourage students to use English and also test their proficiency.

Students’ reports of their motivation for learning English, based on a ten-point scale from the questionnaire collected, varied between medium level and high level scores,
with one participant reporting a high level of motivation and the others designating a medium level to their motivation. Only two of the students had had experience with online English learning, and none had any experience with online discussion either in English or L1 prior to their participation in this study. With regard to how frequently students used translation machines, the participant reports were evenly distributed between low and high frequency, with two students indicating a high level of use, two reporting a medium level and a third student recording a low usage level. These reports indicate that although the majority of the students in OG 1 had not experienced online learning, they were nevertheless motivated to learn English.

Observation group 2 (OG 2) included three female students and one male student with homogeneous backgrounds except with regard to their English learning motivation. All of these participants came from the Department of Finance; their ages ranged from 18 to 19 years, and they had between six and 11 years of English learning experience. None had passed the intermediate level proficiency test based on NETPAW. These parameters identified all the students as basic users of English with proficiencies still at a developing stage. Based on a ten-point scale, their reported motivation for learning English learning varied from medium to high levels of motivation, with three students declaring a high level and one reporting a medium level. None of the participants had had any experience with online English learning or online discussion prior to their participation in this study, and all perceived the frequency of their use of translation
machines to be at a medium level. Again, even though students lacked any experience related to online learning, they were highly motivated to learn English.

The five students in observation group 3 (OG 3) – four males and one female – exhibited differences in their English learning backgrounds with regard to motivation, online learning experience and dependency on translation machines. All group members were from the Department of Public Policy and Management. Their ages ranged from 18 to 20 years old, and had seven to eight years of English learning experience. None of the students had passed the intermediate level proficiency test based on NETPAW. Their combination of characteristics identified all the students as basic users of English whose English was still in a developing stage. Two group members had had experience with online English learning; none had had experience with online English discussion prior to participation in this study, but they had had online discussion experience in L1. Based on a ten-point scale, the participants’ reports of both their motivation to learn English and their use of translation machines varied from low to high levels, indicating that the majority of the group members were still motivated to learn English.
### Table 5.1: Composition of three observation groups

<table>
<thead>
<tr>
<th>Group</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>5</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Age</td>
<td>18~20</td>
<td>18~19</td>
<td>18~20</td>
</tr>
<tr>
<td>Gender</td>
<td>3 females, 2 males</td>
<td>3 females, 1 male</td>
<td>1 female, 4 males</td>
</tr>
<tr>
<td>Department</td>
<td>4 Finance, 1 Material Science and Management</td>
<td>Finance</td>
<td>Public Policy and Management</td>
</tr>
<tr>
<td>Years of English learning</td>
<td>7~10</td>
<td>6~11</td>
<td>7~8</td>
</tr>
<tr>
<td>English proficiency</td>
<td>2 intermediate, 3 lower intermediate</td>
<td>lower intermediate</td>
<td>lower intermediate</td>
</tr>
<tr>
<td>Self-reported English motivation</td>
<td>4 Medium, 1 High</td>
<td>1 Medium, 3 High</td>
<td>1 Low, 3 Medium, 1 High</td>
</tr>
<tr>
<td>Experience of Online English learning</td>
<td>2 Yes, 3 No</td>
<td>No</td>
<td>2 Yes, 3 No</td>
</tr>
<tr>
<td>Experience of online discussion</td>
<td>No</td>
<td>No</td>
<td>Yes/Mandarin</td>
</tr>
<tr>
<td>Use of translation machine</td>
<td>1 Low, 2 Medium, 2 High</td>
<td>Medium</td>
<td>1 Low, 3 Medium, 1 High</td>
</tr>
</tbody>
</table>

### 5.2 Dynamic Group Functioning

#### 5.2.1 Group Processes and Strategies

The three groups were observed in order to obtain a record of their processes during the completion of the small-group-discussion task, which required students to collaborate in both face-to-face and online discussions in order to develop a group argument relating to a given question. OG1 and OG2 were observed for a period of three weeks, and OG3 for a period of two weeks. Judging from the data recorded in the observation notes
(Appendices 19, 20, 21) and irrespective of the difference in the length of the observation period, all three groups adopted similar strategies and worked together in much the same way, moving through the five stages shown in Figure 5.1.

All three groups began by doing revision work (see Figure 5.1) – reviewing discussion questions and reading articles or guidelines to help them grasp ideas or key points relevant to the topics under discussion. To improve their comprehension of these materials, the students often used web translation machines to translate the revision texts into L1. This initial step was followed by stage two, which consisted of oral discussion. During this second phase, group members conversed about focal points, discussion directions, group propositions and group work distribution. At stage three, students focused on online activities; they sought relevant information from Chinese websites and organised their thoughts to compose their individual online postings, using translation machines to help them formulate their thoughts. This process was followed by stage four; here the students reviewed other members’ online postings and proceeded to discuss those, either face-to-face or online, exchanging ideas, sharing thoughts or discussing queries about content or language items. Finally, during stage five, the students synthesized all the members’ opinions and produced group arguments that were agreed upon by all the group members.
Feedback from student focus group interviews revealed salient strategies that the members adopted to facilitate small group discussions. One of these strategies, which was used by all three groups, involved forming a common group proposition through face-to-face discussion. This strategy was used at different stages across the three groups to minimise disagreements, as shown in the responses quoted below; OG 1 and OG 3 used the strategy before composing individual postings, while OG 2 decided group propositions prior to a group synthesis:

“We changed to oral discussion for a common group proposition first, from which every member started to express their opinions.” (Niya) And again, “Since Week 15, we had disagreements for the first time in online discussion. In order to solve the conflict, we changed to orally discuss an agreed group proposition at the beginning.” (Tian – 3rd focus group interview, OG 1, 8 June, 2010)

“Group members would work separately to search answers to sub-questions. Then we orally discussed to decide a group proposition. Finally, I would
Chapter 5 Findings of small-group-discussion task

synthesize all opinions as a group argument.” (Wen) “Group members would orally discuss group proposition and passed the information we gathered and our opinions to Wen who was in charge of group synthesis.” (Xuan – 2nd focus group interview, OG 2, 21 May, 2010)

“We gradually learnt to have an agreed group proposition, from which we started to express individual opinions because it was quicker.” (Yun – 3rd focus group interview, OG 3, 8 June, 2010)

Another strategy common to all three groups was to synthesize all members’ opinions prior to the end of the discussions. In one group, all the members took turns at taking charge of the synthesizing. Another group assigned two of its members to perform this function, and the third group chose one member to do it:

“We weekly assigned different persons to synthesize group members’ opinions as a group argument and took turns to do it. As the person was editing, other group members would orally contribute ideas or suggest whose opinions to be included in the group argument. All group members were invited to reconfirm the group argument through oral discussion prior to final submission.” (Tian – 3rd focus group interview, OG1, 8 June, 2010)

“It was faster that group members orally discussed first and then someone synthesized all opinions as a group argument.” (Anan and Zhi – 2nd focus group interview, OG2, 21 May, 2010)
“We took turns to synthesize opinions as a group argument. Other members may raise further oral discussion or ask for modifications after the group argument was posted on the forum.” (Yun – 3rd focus group interview, OG3, 8 June, 2010)

One of the groups employed a third strategy, i.e., dividing the work and distributing different parts of it to different members, thereby reducing the total workload for the group. This process involved assigning different members to search for relevant information necessary to answer different sub-questions. In contrast, another group required every member to contribute his or her opinions:

“We would assign different members to answer different sub-questions if a question included sub-questions and then we worked separately to search relevant information. That meant some members sought information to answer one sub-question and some members did it to answer another sub-question.” (Xuan – 2nd focus group interview, OG2, 21 May, 2010)

“Each member was required to contribute their opinions and post them on the forum.” (Hua - 1st focus group interview, OG3, 31 March, 2010)

Group members directed their own discussions and were in charge of their own learning, thereby creating an interactive, learner-centred environment. The students engaged in two processes in order to complete the small-group-discussion task: individual work and group collaboration. These two processes, which proved to be essential for completion
of the small-group-discussion task, were intertwined as the task was being performed, as reflected in the following responses of three students in the focus group interviews:

“Each member firstly reviewed the discussion question. [Individual work] Then, we orally discussed the focal points to answer the question. [Group collaboration] After that, we organised our individual thoughts and composed online postings. We normally expressed opinions online first. [Individual work] Then we would only turn to oral discussion on our queries about the content or language in group members’ posts.” [Group collaboration] (Niya – 3rd focus group interview, 8 June, 2010)

“Each member in my group firstly organised individual opinions [individual work] and then posted in the forum [individual work]. One member would be assigned to synthesize all members’ opinions online and produced a group argument [group collaboration].” (Hua - 1st focus group interview, 31 March, 2010)

"Prior to discussion, members would review the articles individually [individual work]. After that, we started to orally talk about how to engage discussion [group collaboration] and then each expressed their own thoughts online [individual work]. After posting individual opinions, we started to review members’ posts and orally discussed queries [group collaboration]. Finally, we assigned one member to synthesize all opinions as a group argument. Any disagreement could be raised with a further oral discussion [group collaboration].” (Yuan – 3rd focus group interview, 8 June, 2010)
5.2.2 Individual Work

As mentioned above, the three groups of students worked to complete the task by engaging in individual work as well as in group collaboration. The individual work component required a process of separate personal learning activities, unassisted by dialogue with other people. This process is categorised in this study as individual work. Both on-task and off-task exercises that occurred during individual work were observed (Figure 5.2). Off-task exercises refer to irrelevant web activities; these were generally carried out after students had contributed two required posts, and became easily distracted toward browsing irrelevant websites such as shopping, food and personal blog sites. One student in OG2 often played online games when the instructor was not around. OG3 members engaged in their work mostly without diverting into off-task activities throughout the length of their two-week observation period. These findings indicate that students were likely to become distracted while working online.

The students’ on-task exercises were mainly centred on solving topic-related problems and language-related issues in order to facilitate their composing of online postings for discussion. To solve topic-related problems, the three groups reviewed discussion questions, read articles and guidelines, and searched for information online to acquire ideas relating to the topic under discussion. To solve language-related problems, the students used web translation machines to assist them in translating the English text of the articles into L1, so they could better comprehend the English language and the
content; they also used translation machines to help them formulate opinions. Observation of the individual work component revealed it to be an online-oriented process that students engaged in as a preparation for and prior to the group discussions.

**Figure 5.2: On-task and off-task attempts during individual work**

5.2.3 Group Collaboration

In this research, group collaboration is defined as the process in which group members work together in an interactive manner to complete a task, and the learning that results from that process (Gokhale, 1995). Group collaboration in this context was therefore a highly task-oriented process, mediated by two modes of discussion: face-to-face and online. An examination of both of these modes indicated that students showed a tendency to speak L1 in face-to-face discussions, but used English during online discussions. This will be further noted as we describe these two types of student interactions more specifically.
Face-to-face Discussion

Face-to-face responses were recorded during an eight-week period of observation intended to examine the functions of the student interaction. In this study, a function is defined as the purpose of a response to an interaction. Interactions were observed taking place under various circumstances. Students worked collaboratively and cooperatively in groups of two, three, four, or with the entire group to solve different on-task or off-task problems in order to complete the assignment, as shown in Table 5.2. Pair interactions were particularly augmented in face-to-face contexts. Three groups of students were noted as primarily interacting in groups of two when engaged in actions such as implementing tasks; accessing online resources; and discussing directions, the English language, opinion clarifications, computer breakdowns and personal conditions.

However, students rarely conversed in a face-to-face mode when working in groups of three and four or with the entire group, except to synthesize opinions to produce a group argument. A range of functions, such as asking for and giving information, suggestions and opinions, were observed in face-to-face discussion as improving language and content comprehension, communication, and task management. Although off-task verbal behaviours sometimes occurred, most face-to-face discussion remained task-oriented. The on-task verbal responses were categorised according to the revised Bales’ IPA model (1950) for the purpose of analysing the functions of students’ face-to-face interactions within the group (see Table 5.2). The Bales’ IPA model was a
systematic method used to analyse the face-to-face interaction processes of a small group by classifying group on-task behaviour act by act.

In this interactive context, the student face-to-face responses were categorised as having three main functions: to ask for and give suggestions; to ask for and give opinions; and to ask for and give information (see Table 5.2). The function category identified as to ask for and give suggestions referred to verbal behaviours that requested and offered directions about how to engage in the task (Bales, 1950). In Table 5.2, the responses intended to ask and demonstrate how to access online resources (#R1), how to translate words (#R16, #R21), and how to formulate group arguments (#R5, #R6, #R18, #R19) were also classified as part of this function category, along with discussion about how to implement the task (#R20) and discussion of directions (#R9).

The function category of asking for and giving opinions corresponded with verbal acts that requested and offered viewpoints relevant to the task (Bales, 1950). Responses meant to request, share and clarify opinions (#R11, #R12, #R13), as well as those that discussed personal propositions, were classified into this category. In addition, responses intended to offer opinions about formulating a group argument (#7) were also grouped into this category. This type of face-to-face discussion allowed students to seek instant help with regard to a brainstorm and to produce a group argument in a more efficient way.
The third and final category identified was to ask for and give information; this function pertained to verbal behaviours that requested and reported factual observations or experiences (Bales, 1950). This category included responses intended to ask for and give language-related information, topic-related information, technical information and personal information. As listed in Table 5.2, discussions about the meaning of the English text or about English language knowledge (#R2, # R4, #R8, #R14, #R15) were considered to fall under the category of asking for and giving language-related information, as were attempts to do English-Chinese translations (#R17) with the help of web translation machines. This type of face-to-face discussion enabled students to instantly solve English language questions.

Discussion about reading articles (#R10) and the content or opinions in the members’ posts (#R3) was categorised as having the function of asking for and giving topic-related information. This kind of face-to-face discussion improved the students’ understanding of the topic and assisted them in further brainstorming. Responses that shared personal conditions or progress (#R22, #R23) were identified as belonging to the function category of asking for and giving personal information. Responses intended to solve computer problems were regarded as corresponding with the function of asking for and giving technical-related information. Asking for and giving language-related information, topic-related information, technical-related information and personal
information were all categorised as part of the function of enquiring and sharing information.
Table 5.2: Analysis of face-to-face interaction functions for an eight-week period of observation

<table>
<thead>
<tr>
<th>Group</th>
<th>Week/Topic</th>
<th>Participants</th>
<th>Interaction Responses</th>
<th>Interaction Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7/Why CEOs matter?</td>
<td>2</td>
<td>● enquire about which forum to access and how to access to it (#R1)</td>
<td>• ask for &amp; give suggestion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● enquire about the meaning of the discussion question (#R2)</td>
<td>• ask for &amp; give language-related information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● enquire about the content in other members’ posts (#R3)</td>
<td>• ask for &amp; give topic-related information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● enquire about the text meaning in other members’ posts (#R4)</td>
<td>• ask for &amp; give language-related information</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>● invite other members to work out a group argument (#R5)</td>
<td>• give suggestion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● enquire how to structure their group argument (#R6)</td>
<td>• ask for &amp; give suggestion</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>● contribute ideas or opinions to compose a group argument (#R7)</td>
<td>• give opinions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● contribute language to compose a group argument (#R8)</td>
<td>• give language-related information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● discuss reading articles (#R10)</td>
<td>• ask for &amp; give topic-related information</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>● enquire about the content in other members’ posts (#R3)</td>
<td>• ask for &amp; give topic-related information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● enquire about the text meaning in other members’ posts (#R4)</td>
<td>• ask for &amp; give language-related information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● discuss their own opinions (#R11)</td>
<td>• give opinions</td>
</tr>
<tr>
<td>5</td>
<td>15/A Science of politics</td>
<td>2</td>
<td>● enquire about the meaning of the discussion question (#R2)</td>
<td>• ask for &amp; give language-related information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● enquire about the direction of the discussion (#R9)</td>
<td>• ask for &amp; give suggestion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● discuss reading articles (#R10)</td>
<td>• ask for &amp; give topic-related information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● enquire about the content in other members’ posts (#R3)</td>
<td>• ask for &amp; give topic-related information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● enquire about the text meaning in other members’ posts (#R4)</td>
<td>• ask for &amp; give language-related information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● confirm the member’s position shown in the posts (agree or disagree) (#R12)</td>
<td>• ask for and give opinions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● enquire about text meaning in other members’ posts (#R4)</td>
<td>• ask for &amp; give language-related information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● ask members to offer more opinions (#R13)</td>
<td>• ask for opinions</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>● synthesize opinions for the group argument (#R14)</td>
<td>• give language-related information and give opinions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● structure English sentences (#R15)</td>
<td>• ask for &amp; give language-related information</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>● demonstrate how to post final argument on the forum (#R1)</td>
<td>• give suggestion</td>
</tr>
</tbody>
</table>

#R represented one interaction response
### Table 5.2 (Continued): Analysis of face-to-face interaction functions for an eight-week period of observation

<table>
<thead>
<tr>
<th>Group</th>
<th>Week/Topic</th>
<th>Participants</th>
<th>Interaction Responses</th>
<th>Interaction Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>17/Tourism &amp; globalization</td>
<td>2</td>
<td>● discuss the assigned articles (#R10)&lt;br&gt;● enquire about the meaning of the discussion question (#R2)</td>
<td>● ask for &amp; give topic-related information&lt;br&gt;● ask for &amp; give language-related information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● enquire about the content in other members’ posts (#R3)&lt;br&gt;● enquire about the text meaning in other members’ posts (#R4)&lt;br&gt;● confirm their position shown in the posts (agree or disagree) (#R12)</td>
<td>● ask for &amp; give topic-related information&lt;br&gt;● ask for &amp; give language-related information&lt;br&gt;● ask for &amp; give opinions</td>
</tr>
<tr>
<td></td>
<td>3/M-shaped society</td>
<td>2</td>
<td>● enquire about the content in other members’ posts (#R3)&lt;br&gt;● enquire about the text meaning in other members’ posts (#R4)&lt;br&gt;● discuss the group’s proposition for answering the question (#R6)&lt;br&gt;● synthesize opinions for the group argument (#R14)</td>
<td>● ask for &amp; give topic-related information&lt;br&gt;● ask for &amp; give language-related information&lt;br&gt;● ask for &amp; give suggestion&lt;br&gt;● give language-related information and give opinions</td>
</tr>
<tr>
<td></td>
<td>10/Developing the next generation of Chinese business leaders</td>
<td>2</td>
<td>● enquire about how to translate words into English (#R16)&lt;br&gt;● work together to do English translation (#R17)</td>
<td>● ask for suggestion &amp; ask for language-related information&lt;br&gt;● ask for &amp; give language-related information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● discuss and decide whose opinions to be included in the group argument (#R18)&lt;br&gt;● assign someone to synthesize and post group argument (#R 19)</td>
<td>● ask for &amp; give suggestion&lt;br&gt;● give suggestion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● inform that Chinese translation of discussion question was provided (#R21)&lt;br&gt;● enquire about how to submit assignments online (off-task)&lt;br&gt;● demonstrate how to submit assignments online (off-task)</td>
<td>● give suggestion&lt;br&gt;● off-task&lt;br&gt;● off-task</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● enquire about which forum to access (#R1)&lt;br&gt;● demonstrate how to access to the right forum (#R1)&lt;br&gt;● enquire about the meaning of the discussion question (#R2)&lt;br&gt;● enquire about the direction of the discussion (#R9)&lt;br&gt;● discuss how to engage the task (#R20)</td>
<td>● ask for suggestion&lt;br&gt;● give suggestion&lt;br&gt;● ask for &amp; give language-related information&lt;br&gt;● ask for &amp; give suggestion&lt;br&gt;● ask for &amp; give suggestion</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>● inform that Chinese translation of discussion question was provided (#R21)&lt;br&gt;● enquire about how to submit assignments online (off-task)&lt;br&gt;● demonstrate how to submit assignments online (off-task)</td>
<td>● give suggestion&lt;br&gt;● off-task&lt;br&gt;● off-task</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>● enquire about which forum to access (#R1)&lt;br&gt;● demonstrate how to access to the right forum (#R1)</td>
<td>● ask for suggestion&lt;br&gt;● give suggestion</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>● discuss how to distribute group work for group presentation (off-task)</td>
<td>● off-task</td>
</tr>
</tbody>
</table>

#R represented one interaction response
Table 5.2 (Continued): Analysis of face-to-face interaction functions for an eight-week period of observation

<table>
<thead>
<tr>
<th>Group</th>
<th>Week/Topic</th>
<th>Participants</th>
<th>Interaction Responses</th>
<th>Interaction Functions</th>
</tr>
</thead>
</table>
| 2     | 10/Developing the next generation of Chinese business leaders | 2 | • share opinions (#R11)  
• compose English sentences with the help of web translation machines (#R17) | • give opinions  
• ask for & give language-related information |
|       |            | 3 | • synthesize members’ opinions as a group argument (#R14)  
• offer pro and con opinions to add in group argument (#R7) | • give language-related information and give opinions  
• give opinions |
| 16/Tourism today | 2 | | • encourage group members to refresh mind for discussion (#R22)  
• enquire about the meaning of the discussion question (#R2)  
• enquire about the direction of the discussion (#R9)  
• discuss pro and con opinions (#R11) | • ask for & give personal information  
• ask for & give language-related information  
• ask for & give suggestion  
• give opinions |
|       |            | 2 | • ask the spelling of English words (#R17)  
• chat about irrelevant websites (food, shopping websites) (off-task) | • ask for & give language-related information  
• off-task |
|       |            | 2 | | • give language-related information and give opinions |
| 3     | 5/Taiwan’s hi-tech future | 4 | • discuss the direction of the discussion (#R9) | • ask for & give suggestion |
|       |            | 2 | • enquire about which forum to access (#R1)  
• enquire about which question to discuss (#R1) | • ask for & give suggestion  
• ask for & give suggestion |
|       |            | 3 | • enquire about the meaning of the discussion question (#R2)  
• enquire about the direction of the discussion (#R9) | • ask for & give language-related information  
• ask for & give suggestion |
|       |            | 2 | • work out English language problems (#R17) | • ask for & give language-related information  
• ask for & give suggestion |
|       |            | 3 | • discuss the direction of the discussion (#R9) | • ask for & give suggestion |
| 14/Financial accounting & tax principle | 2 | | • enquire about the meaning of the discussion question (#R2)  
• enquire about the direction of the discussion (#R9) | • ask for & give language-related information  
• ask for & give suggestion |
|       |            | 2 | • enquire about individual’s current progress (#R23) | • ask for & give personal information  
• ask for & give suggestion |
|       |            | 4 | • discuss how to organise final argument (#6) | • ask for & give suggestion |
|       |            | 2 | • discuss English language questions (#R17)  
• discuss other members’ opinions in online posts (#R3) | • ask for & give language-related information  
• ask for & give topic-related information |
|       |            | 2 | • ask for more opinions (#R13) | • ask for opinion |
|       |            | 2 | • discuss other members’ opinions in online posts (#R3)  
• synthesize opinions for a group argument (#R14) | • ask for & give topic-related information  
• give language-related information and give opinion |

#R represented one interaction response
Chapter 5 Findings of small-group-discussion task

An Analysis of Face-to-face Interaction Functions

A frequency analysis (Figure 5.3) shows that the interactions observed mainly corresponded with the function of asking for and giving information (55%). Within this function, asking for and giving language-related information accounted for 37% of the interactions, whereas asking for and giving topic-related information represented 15% of the interactions. The function of asking for and giving personal information accounted for only 3% of the total responses. Therefore, it appears that the students under observation were interacting face-to-face primarily to ask for and to provide language-related information. Another prevalent interaction function was to ask for and give suggestions, which comprised 32% of the total responses (122) and represented an essential function that required students to engage in the task. To ask for and give opinions was the function related to the fewest number of responses (13%), indicating that the three groups of students spent the least amount of time exchanging viewpoints during these face-to-face interactions.

Figure 5.3: Frequency analysis of face-to-face interaction functions

Note. Percentages were rounded to the nearest whole number
The three groups were randomly observed during different weeks to examine their face-to-face interaction functions. The total observation time was not equal for all three groups, and similarities as well as differences were noted between them. For example, all three groups manifested a number of responses related to asking for and giving language-related information and suggestions that was higher than their number of responses related to asking for and giving opinions (see Figure 5.4). However, the frequency and type of these responses varied across groups. The students in OG1 spent a great deal of time discussing language-related and topic-related information, whereas the members of OG2 and OG3 were more focused on providing information and suggestions.

These similarities and differences notwithstanding, the responses across the groups indicate that all three groups of students relied on face-to-face interactions to solve language-related problems. OG2 and OG3 further depended on a face-to-face mode to solve problems related to task implementation. Notably, OG2 did not display any responses intended to solve topic-related problems, and OG1 made no responses related to solving personal problems. The absence of these two items indicates that it is not inevitable for topic-related problems and personal problems to occur or to elicit a response in face-to-face discussion interactions.
Figure 5.4: Frequency analysis of each interaction functions across groups

Online Participation and Interaction

Online discussion was another significant mode of learning observed during small group discussions that required a group of students to collaborate in producing a group argument to a given controversial question. The number of online posts and the number of contributing members of all three groups were analysed to examine online participation rates over an eight-week online discussion. An analysis of the data showed that the three groups of students generated 91% (217 posts) of the total number of posts while teachers contributed 9% (22 posts). Among the students’ posts, only 35% were independent messages, suggesting a high response rate of 65%. Among the three groups, OG1 contributed the highest number of posts while OG2 generated the lowest number. OG1 produced 40% of the posts; OG2 was responsible for 21% of the total and OG3 contributed 39% (Figure 5.5). The posting contributions among all three groups characterises this online discussion as a learner-centred and topic-oriented task in which
students mainly led their own dialogues by expressing thoughts, elaborating opinions and giving comments.

**Figure 5.5: Number of posts generated across groups**

![Pie chart showing the percentage of posts by each group]

*Note.* Percentages were rounded to the nearest whole number

An analysis of the students’ weekly posts reveals that students in OG2 and OG3 generated more posts during the last four weeks of the observation period (Figure 5.6). Although this phenomenon was not as clearly noticeable when viewing the weekly contributions of the OG1 students, the number of posts during the last four weeks also appeared to be consistently higher in that group when compared with those produced during the first five weeks of the observation period. The number of contributors remained inconsistent throughout; some weeks showed more contributors than others during the eight-week discussion period. Notably, all students in OG2 contributed to the discussion during the last four weeks of observation; in general, the student
Chapter 5 Findings of small-group-discussion task

participation rate was relatively higher during the last four weeks than over the first five weeks.

**Figure 5.6: Number of weekly posts and contributors across groups**

The students’ online discussion postings, including independent messages and interactive messages, were analysed to examine the interaction functions. Independent messages refer to postings without responses, while interactive messages consist of online utterances with responses from other discussants. Of 217 posts, 225 codes were analysed based on a revised and expanded Zhu’s model (1998) (Section 4.5.2). This analysis of the data identified discussion (55.1%), comment (27.1%) and synthesizing (10.7%) as the three main interaction functions (Figure 5.7) present. Other interaction functions such as question (5.8%), information-sharing (0.9%), and answer (0.4%) had a comparatively low rate of occurrence.
Both similarities and differences were found between groups with regard to students’ online interactions with their group members. Data analysis (see Figure 5.8) showed that the three groups of students primarily expressed thoughts and opinions (discussion function) and provided comments (comment function) when engaging in the online discussions. However, the frequency of each type of function used varied relatively within groups. OG3 members contributed most discussion statements, while OG1 students exceeded OG2 and OG3 members in comment statements. OG2 students contributed the least number of both types of statements. The number of synthesizing statements contributed was not high, but displayed similar frequency across groups. Students rarely raised questions, shared information or provided answers to information-seeking questions. The overall data suggests that all three groups shared similar interactions among their members, but differed in the level of interaction among members. A more detailed account of each interaction function is described as follows:
The discussion interaction function is defined as consisting of online statements that express individual thoughts and elaborate individual opinions related to the topics under discussion. Online responses that included clarification, explanation and elaboration in responding to others’ questions and statements were also classified into this interaction function. Within this function, expression of thoughts accounted for 61% of the statements, whereas elaboration of opinions represented 39%, thus indicating that students spent more time expressing their thoughts (online response 1) rather than elaborating opinions (online response 2). An examination of students’ online discussion logs reveals that most of the discussion statements were independent posts made in response to discussion questions, not interactive messages posted in response to prompting questions or others’ opinions; this finding points out that students appear keen to express their thoughts or elaborate their individual ideas (as illustrated below) but seem unwilling to respond to others’ input in most cases.
Online response 1

“I thought that the aboriginal arts culture is one of Taiwan’s characteristics.”
(Discussion-Expression of thoughts – Tian - Week 5: Endangered Taiwanese traditional handicrafts)

Online response 2

“I think aboriginal arts have some hindrance. For example, [the] aboriginal are repelled [repelled] by social environment. They are very the minority. And their education is also question. [They are the minority and they have problems to get education.]” (Discussion-Elaboration of opinions – Jing - Week 5: Endangered Taiwanese traditional handicrafts)

Note: For the purpose of English practice, students’ online responses are required to present in English. The square brackets are the corrections of students’ English errors.

The comment interaction function comprises online utterances that show agreement or disagreement, or offer affirmative or negative comments. Expressing agreement and offering affirmative comments represents support, while expressing disagreement or negative comments indicates conflict. Non-substantive comments accounted for 48% of the statements corresponding with this function while substantive comments represented 52% of the statements. Substantive comments refer to those comments provided that include further personal opinions (online response 3), whereas non-substantive comments present personal positions without further opinions (online response 4).

The percentages reflected the students’ preference for providing comments with elaborated opinions. In all three groups, students mainly expressed agreement in
response to discussion questions; they commented in part on other members’ opinions and most often agreed with others, instead of disagreeing and challenging their views (online response 5).

Online response 3
“I disagree to allow the collection agents to be legally formed to collect debts. This way may effect [affect] social order. It would make another problem of committing a crime.” (Substantive comment – Cai, OG1, Week 14: Agree or disagree to allow the collection agents to be legally formed?)

Online response 4
“I disagree.” (Non-substantive comment – Hua, OG3, Week 14: Agree or disagree to allow the collection agents to be legally formed?)

Online response 5
“I also agree [with] your opinion. Taiwan have [has] more experience than China and the government has worked to create a macro environment favourable to high-tech development.” (Substantive comment – Zhou, OG3, Week 6: To invest Taiwan’s hi-tech industry or not)

The synthesizing interaction function pertains to online statements that compile related information or summarize discussion messages; this function appeared only in the last group discussion posting in which all members’ opinions were compiled to form a group argument. A final argument that consisted only of one member’s post without modifications was not considered to be a synthesizing statement. Synthesizing
statements were rarely found in individual student posts. Although the number of synthesizing statements was relatively low compared to the number of discussion and comment statements, their inclusion represents a significant interaction function that is essential in achieving the task goal.

The question interaction function is represented by online inquiries that seek information or attempt to start a dialogue; this function was performed mostly to elicit more opinions for elaboration requests, clarification requests, or explanation requests. Students seldom raised questions to seek information or to start a dialogue that enquired about their group members’ opinions; only one such post appeared in the discussions of OG2, and one in the discussions of OG3. OG1 members generated the most question statements. One particular student in OG1, Niya, was the most prolific contributor of this type of interaction, producing a total of 12 posts primarily to ask for elaborations (online response 6), as illustrated in the example below:

*Online response 6*

“I support to live in [the] Mars because it have [has] a lot of water. What do you guys think?” (Question-Elaboration request – Niya, OG1, Week 4 Space colonies)

“So what is our discussion major?” (Question-Information seeking – Niya, OG1, Week 5 Endangered Taiwanese traditional handicrafts)

“Could you tell me ‘destroy the ecology of a landscape and the local way of life’ in detail?” (Question-Explanation request – Niya, OG1, Week 16: Tourism today)
The information-sharing function consists of online messages that describe or share personal information or experiences. This type of interaction only occurred in the OG2 discussion, with a total of two posts (online response 7) when students Wen and Xuan related their personal experiences about tourism. Wen confided that, because of the issue of face, she acted like a good tourist when she travelled to Hualien and Taitung at the age of 13. Xuan responded that she would also act as a good tourist if she were to travel to Hualien someday. It is possible that students displayed this interaction function because the topic under discussion was one that related to their life experiences:

*Online response 7*

“When I’m 13, I went to Hualien and Taitung. There is scenery. We want to maintain the face that we are Kaohsiung. So we will be a good quality visitors.” (Information sharing – Wen, OG2, Week 16 Agree or disagree to promote tourism)

“I have not been to Hualien to play someday I’m going to travel. I can be a good quality visitors [visitor]. Ha Ha.” (Information sharing – Xuan, OG2, Week 16: Agree or disagree to promote tourism)

The answer interaction function refers to online statements that are either information-seeking questions or inquiries requesting opinions. There was only one instance of this type of function; one post occurred in the OG3 discussion and was recorded as online response 8 (detailed below). A student, Hua, replied to the researcher’s question about the handicraft that the group had decided to discuss. Since at the beginning of the discussion the group had remained silent, Hua’s answer was
instrumental in helping the researcher to ensure the students’ progress. The answer interaction function did not appear in the discussions of the other two observation groups. The scarcity of answer statements indicates that the students seldom sought information during small group online discussions.

*Online response 8*

“Has your group decided which handicraft to discuss? (Information-seeking - Researcher) Yes, [is] paper umbrella.” (Answer to information-seeking question – Hua,” OG3, Week 5: Lost Art)

### 5.3 Process of Online Meaning Construction

One discussion thread in Week 6 of small group online discussion in OG3 was analysed to examine the students’ process of meaning construction. Construction of meaning in this study refers to the construction of topic knowledge and linguistic knowledge that enhances L2 learning. In order to make the analysis manageable, only one thread was selected; this particular one was chosen because it featured a large number of messages from which to sample.

The process of meaning construction started with an open question raised by the teachers to solicit responses and ended with a consensus agreed upon by group members, as shown in Table 5.3. Various functions were evident throughout the process of meaning construction. The first response to the teachers’ question began by stating or identifying positions with supporting ideas and thoughts, and was the foremost function
that students engaged in to co-construct meanings relating to the topic. These response statements were directly related to the discussion statements (Section 5.2.3 – Online participation and interaction) that were presented as a series of monologues primarily in response to the discussion questions. In this study, monologues are defined as online utterances made without the intention of eliciting further opinions or interactions with people. These particular monologues, however, were perceived as reflective ones in which the students attempted to explain their own ideas and perspectives using the target language.

New information and concepts arose from these statements, which were contributed by different students throughout the discussion (#P2, #P9, #P11, #P12, #P13, #P14). In this study, a concept is defined as an idea or a thought. For example, rich experiences were first identified as associated with hi-tech investment, as reported in posting 2. Building on this idea, other new ideas in terms of market, development of technology-related industries (#P11, #P13, #P14), manpower resources, and the high quality of labour force (#P9, #P12, #P13) were presented in support of the students’ propositions. In particular, Yun supported her argument for investing in Taiwan by referring to a global competitiveness report from the World Economic Forum (#P13). The members’ ideas and thoughts were then taken into consideration to formulate a new argument: It is profitable to invest in Taiwan’s hi-tech industries (#P15).

In reply to members’ ideas and opinions, students responded further to “show
agreement” with or without including supporting ideas with these responses, which corresponds to the comment function (Section 5.2.3 – Online participation and interaction). Students expressed agreement as a way of making sense of and understanding the topic discussed in the postings of others (#P4, #P6). The expressions of agreement that include supporting ideas have the potential to trigger new thoughts (#P6). For example, Zhou put forward the idea of a “macro environment” as one important issue to consider in deciding whether to invest in high-tech industry. Members rarely probed questions to request clarification. Instead, the instructor prompted questions to elicit elaborated opinions (#P8) or to serve as implicit scaffolds in which to request further clarification of the text meaning (#P10). Probing questions, which corresponds to the questioning interaction function (Section 5.2.3 – Online participation and interaction), rarely gave rise to new ideas and thoughts.

In addition to constructing topic-related knowledge, students were also exposed to communicating with the L2. Error correction (#P3, #P5, #P7) was an explicit scaffold around the construction of linguistic knowledge. For example, the instructor pinpointed the students’ grammatical errors related to the use of the phrases “agree with” or “agree to” (#P5, #P7) and requested corrections. Students seldom assisted each other in correcting language errors. The instructor’s request to correct grammatical errors corresponds to the scaffolding function (Section 5.2.3 – Online participation and interaction). In spite of the instructor’s request, however, the students failed to correct the language errors in the final argument, which suggests that they were active in the
construction of topic-related knowledge, but not attentive to the construction of linguistic knowledge throughout the online discussion. The possibility also exists that meaning construction in online discussion was a process of constructing knowledge in terms of both topic and language.

**Table 5.3: Excerpts from small group discussion: Taiwan's hi-tech future, Week 6**

<table>
<thead>
<tr>
<th>P1#</th>
<th>Taiwan is well-known for its hi-tech sector. Some people may think Taiwan is still profitable to invest while others might think it has lost its competitiveness. If you were CEOs of a foreign company of technology, would you decide to invest in Taiwan? Please provide several reasons pro and con to explain why you would or wouldn’t invest in Taiwan.</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2#</td>
<td>I will invest in Taiwan. Maybe China have manpower superiority. Inexpensive labour force is China's biggest characteristic. But I think that <strong>hi-tech</strong> is <strong>need professionals</strong>. And Taiwan has <strong>rich experience</strong>. (Hua)</td>
</tr>
<tr>
<td>P3#</td>
<td>“I think that hi-tech is need professionals”. Both is and need are verbs. Correct this error. (Instructor)</td>
</tr>
<tr>
<td>P4#</td>
<td>oh~I am agree to yours. You can look my opinion! (Min)</td>
</tr>
<tr>
<td>P5#</td>
<td>“I agree with your opinion” instead of “I am agree to...” (Instructor)</td>
</tr>
<tr>
<td>P6#</td>
<td>I also agree your opinion. Taiwan have more experience than China and the government has worked to create a <strong>macro environment</strong> favourable to high-tech development. (Zhou)</td>
</tr>
<tr>
<td>P7#</td>
<td>Good that you refer to the reading articles. We say “agree with”. (Instructor)</td>
</tr>
</tbody>
</table>

#P: posting
Table 5.3 (continued): Excerpts from small group discussion: Taiwan’s hi-tech future, Week 6

P8# Why didn’t I see any posting? (Instructor)

P9# If I am CEOs of a foreign company of technology, I would decide to invest in Taiwan. Because the high value people placed on education and the government’s dedication to the cultivation and application of professional manpower resources have contributed to Taiwan’s abundant high-quality labour force. (Zhou)

P10# What do you mean by “the high value people placed on education” (Instructor)

P11# If I am a CEOs of a foreign company of technology, I certain decide to invest in Taiwan. Because Taiwan is a big market, labourer and technology are very sufficient. Taiwan is the Industry kingdom. So Taiwan has the shallow strength. I will invest with all one's strength in this. (Min)

P12# I will decide to invest in Taiwan. Taiwan's science and technology foster industrial development. The government invested much of money and manpower to develop high-technology. Taiwan also has the plan to cultivate scientists and technicians. (Chou)

P13# I thought that Taiwan is worth investing. Taiwan has many high-tech industries, what have the very good result in the world place, may discover that has the profound potential. For example: In the world economic forum (WEF) whole world competitive power reports 2009~2101, Taiwan is 12th. Especially in electronics and information industries, biotechnology industries become from the backbone of Taiwan's hi-tech future. Taiwan’s technical conditions and innovative mechanism, services, capital, people's quality can be quite advantageous. (Yun)

P14# p.s The disadvantage is Taiwan’s market is too small and need to development the world. (Yun)

#P: posting
### Table 5.3 (continued): Excerpts from small group discussion: Taiwan’s hi-tech future, Week 6

<table>
<thead>
<tr>
<th>P15# We thought that Taiwan is worth investing.</th>
<th>Reaching consensus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taiwan has many high-tech industries, what have the very good result in the world place, may discover that has the profound potential. For example: In the world economic forum (WEF) whole world competitive power reports 2009–2101, Taiwan is 12th. Especially in electronics and information industries, biotechnology industries become from the backbone of Taiwan's hi-tech future. Taiwan’s technical conditions and innovative mechanism, services, capital, people's quality can be quite advantageous. Because Taiwan is a big market, labourer and technology are very sufficient. Taiwan is the Industry kingdom. so Taiwan has the shallow strength. I will invest with all one's strength in this. the high value people placed on education and the government's dedication to the cultivation and application of professional manpower resources have contributed to Taiwan's abundant high-quality labor force. (Group argument)</td>
<td></td>
</tr>
</tbody>
</table>

Note: Students’ English errors were not corrected in order to genuinely show the process of meaning construction during online discussion. The accuracy was not the focus of the present research.

The process of online meaning construction is illustrated as a flow pattern (Figure 5.9) which begins with an open discussion question followed by an identified proposition (discussion statement), an identified language error (scaffolding statement), another identified proposition (discussion statement), an affirmative comment (comment statement) or a probing question (question statement) and further identified propositions (discussion statements), then ending with an agreed-upon group argument. Comment, question and scaffolding statements did not occur in a rigid sequence, and it is probable that these statements might have elicited further discussion statements, which were the most prevalent type of student responses in small group discussion.
5.4 Summary

The findings revealed that a small-group-discussion task changed the participants’ interactive patterns from passive to active by compelling them to assist each other in order to achieve the task goals. Students adopted strategies that were sometimes similar and other times different, as they moved through five stages in completing the task – review, discussion, and composing, exchanging and synthesizing ideas. The content analyses indicated that face-to-face interaction promoted the exchange of information and negotiation of task procedures, as students interacted mainly to ask for and give suggestions and language-related and topic-related information by using L1. Online interaction facilitated exchanges of perspectives and encouraged individual reflection, as students interacted mostly to express thoughts and give comments by using L2.

This chapter commenced by reporting the interactions of the three study groups in the small group discussions. The profiles of the three groups, dynamic group functioning
including group processes and strategies, individual work, and group collaboration, as well as process of meaning construction were presented to analyse students’ learning performance in small group discussions. The next chapter will turn to the findings related to student learning performance in another two online-group-critique tasks.
The previous chapter reported the dynamics of student learning performance in the small-group-discussion task. This chapter presents student learning performance findings from the three observation groups who completed two types of online-group-critique tasks: in-class group critique and out-of-class group critique. General results across the three groups will be applied to answer Sub-research questions 2 and 3 in the subsequent discussion chapter. Both Sections 6.1 and 6.2 focus on describing student participation and interaction, as well as the processes of meaning construction in these two types of blended discussion tasks. Section 6.3 presents additional findings pertaining to teacher scaffolds in both face-to-face and online discussions, as well as two traditional course tasks – teacher-led instruction and student group presentation – to elucidate teacher-student interaction in a blended context and in a traditional English class.

6.1 In-class Online-group-critique Task

The in-class group critique, which required two groups of students to critique the other group’s argument and defend their own group’s argument, was performed during class time for a period of four weeks. The online discussion logs of all three groups were first analysed quantitatively to examine online student participation, then analysed
qualitatively to examine student online interactions and the process of meaning construction.

### 6.1.1 Online Participation

The number of online posts and the number of contributors were analysed to determine the rate of online participation. This analysis of four topic discussions disclosed that the students generated 88% of the total number of posts (115 posts) while teachers contributed 12% (16 posts). Of the three groups, OG1 was the highest contributor and OG3 generated the fewest number of posts: 38% of the posts came from OG1, 32% from OG2 and 30% from OG3. There was an equal number of critiquing responses (50%) and defending responses (50%) overall; however, the frequency of these two responses was inconsistent across groups (Figure 6.1).

**Figure 6.1: Number of posts generated across groups**
In terms of the number of contributors, there were more students (50%~100%) involved in critiquing the other group’s arguments each week than there were students (20%~75%) defending their own group’s argument (Figure 6.2), yielding a lower participation rate for this second part of the task. However, the students who were involved in defending their group’s argument contributed more posts weekly than those who participated in the critiques. This finding may indicate that the process of giving critiques encouraged overall student participation, while the process of defending an argument induced individual contributions.

Figure 6.2: Number of contributors across groups

6.1.2 Online interaction

The students’ online discussion postings, including independent messages and interactive messages, were analysed in order to examine their online interaction functions. Of 115 posts, 133 codes were subjected to an analysis based on the category system (Section 4.5.2). The results disclosed that students used a range of interaction functions (Figure 6.3) while engaged in online discussions. The data identified
discussion (38%), comment (30%) and question (19%) as the three chief interaction functions used in this context. Other interaction functions such as scaffolding (6%), social talk (3%), synthesizing (3%) and reflection (1%) were relatively low in incidence.

**Figure 6.3: Percentage of online interaction functions across groups**

![Pie chart showing the percentage of online interaction functions across groups](chart.png)

*Note. Percentages were rounded to the nearest whole number*

The students’ online interactions with their group members manifested both similarities and differences between groups. An analysis of the data (Figure 6.4) concluded that, for the most part, students in all three groups gave comments (comment interaction function) and raised questions (question interaction function) when critiquing another group’s arguments. The members of OG1 surpassed the students in both OG2 and OG3 in performing these two interaction functions. In general, students hardly ever provided scaffolds or talked socially when critiquing.
Chapter 6 Findings of online-group-critique tasks and additional findings

The students most often expressed thoughts and opinions (discussion interaction function) when defending their group argument. Other interaction functions, such as scaffolding, synthesizing, social talk and reflection, were relatively scarce and the frequency with which they occurred varied considerably across groups (Figure 6.4). Synthesizing and reflection functions were found only when the groups were defending their own argument. More detailed accounts of each interaction function are described below.

**Figure 6.4: Frequency of online interaction functions across groups**

![Graph showing interaction functions across groups](image)

Discussion was the most frequent interaction (28%) among students when they were defending their group arguments (Figure 6.4). All three groups effectively expressed thoughts or elaborated opinions in response to others’ probing questions (63%~90%). Within this function, expression of thoughts accounted for 59% of the interactions, and elaboration of opinions represented 41%. Students usually spent more time expressing thoughts than elaborating opinions when defending their group arguments. In contrast, students made few discussion statements (10%) when critiquing another group’s argument, although OG3 members showed a tendency to express thoughts as a means of
critiquing and produced more discussion statements in this context (online response 9); but in general, students contributed more discussion statements when defending their group arguments.

Online response 9

“I think [that] use[ing] government [to] manage the number of tourists is the [a] good way. But I think slogans [s] effect is not very obvious.”

(Discussion-Expression of thoughts – Hua, OG3, Week 16: Tourism today)

Note: Students’ online responses are required to present in English. The square brackets are the corrections of students’ English errors.

Comment was the first main type of interaction function that occurred frequently (21%) during critiques. All three groups effectively expressed agreement or gave affirmative comments when critiquing the other group’s arguments or opinions (Figure 6.4), with the number of comments divided equally between non-substantive comments (50%) and substantive comments (50%), thus indicating that students were capable of providing both types of feedback. In contrast, comment statements were uncommon (9%) when students were defending their own arguments. OG2 members frequently gave affirmative comments in response to critiques (online response 10). In general students displayed a tendency to critique the other group’s arguments by way of offering comments.
Chapter 6 Findings of online-group-critique tasks and additional findings

Online response 10

“Yes, your opinion is important. But please attention only have [note that having] good resources isn’t enough.” (Non-substantive comment in response to other’s critique - Zhi, OG2, Week 4: Describe your ideal colony) “So, the better way is find a good place and develop the essential building in the same place.”

Question was the second main type of interaction function that occurred frequently (16%) during critiques. All three student groups, particularly OG1, often raised questions to request further explanations, elaborations or clarifications when critiquing the other group’s arguments (Figure 6.4). Question statements were primarily used to elicit opinions or to begin dialogues rather than to obtain direct or correct answers. Information-seeking questions seeking direct or correct answers were not found in students’ discussions. Question statements were hardly ever used (3%) by students defending their group arguments. It was common in all three groups for students to raise further questions after critiquing the other group’s opinions (online response 11).

Online response 11

“Your proposed method is good, but the text of exhibition [is] only [for] short-term considerations.” (Non-substantive comment to critique the counterpart’s argument) “If you want to take into account the development of long-term, then what other programs can you think about?” (Question for elaboration request – Zhi, OG2, Week 5: Endangered Taiwanese traditional handicrafts)

The scaffolding interaction function occurred during online group critique in class (but
not in the small group online discussions) and consisted of online messages that offered advice with regard to divergent opinions, suggested relevant fundamental points or corrected language errors. Both Niya from OG1 and Hua from OG3 presented scaffolding statements when critiquing the other group’s arguments (online responses 13 and 14) while Zhi from OG2 contributed scaffolding statements when defending her own group’s arguments (online responses 12). Although scaffolding statements were few (7%), their presence indicates that these students paid attention to the discussion and took on the role of adviser or mentor. It was interesting to find that students occasionally offered a suggestion or raised a question after critiquing an argument (online response 14).

*Online response 12*

“Oh, the theme is [to] discuss Taiwan’s advantage[s] and disadvantage[s]. Your question is deviating [misleading] the theme.” (Scaffolding to correct discussion direction – Zhi, OG2, Week 6: To invest Taiwan’s hi-tech industry or not)

*Online response 13*

“The third paragraph ‘theeir’ and the fourth paragraph ‘dsbts’ is wrong.” [The word, ‘theeir’, in the third paragraph and the word, ‘dsbts’, in the fourth paragraph are wrong.] (Scaffolding to correct English errors – Hua, OG3, Week 14: To legalise private debt-collection agents or not)

*Online response 14*

“It is a super good idea. (Comment) But I think it is just a [an] ‘ideal’, you know. It is like ‘What you want to live in your feature [future]?’ not ‘What it is a [an] ideal
colony for humans to live in outer space?’” (Scaffolding to correct discussion direction– Niya, OG1, Week 5: Describe your ideal colony) “So, can you give more ideal point[s] to live in outer space?” (Question)

Social talk, reflection and synthesizing statements were scarce during in-class group critique, pointing out that the students’ thoughts were not centred on social or reflective aspects, or on information synthesis. The social talk interaction function, similar to face-to-face conversation, was used to offer apologies or acknowledgements (online responses 15 and 16), and emerged more often when students were defending their arguments. Interestingly, only one reflection statement occurred as a response to other’s comments; the statement was made by OG3 member Yun, who provided positive appraisal of the discussion in order to reduce contradiction (online response 17). Synthesizing statements ensued only after critiques, and were used to modify the group argument by adding elaborated opinions and correcting English words.

*Online response 15*

“Sorry! I forgot to modify our final answer. But the answer is exact our team discuss and point”. [I am sorry that I forgot to modify our final answer. The answer is our team argument.] (Social talk to show an apology – Niya, OG1, Week 14: To legalise private debt-collection agents or not)

*Online response 16*

“Thanks for your respond [response].” (Social talk to show gratitude of other’s comment – Zhi, OG2, Week 4: Describe your ideal colony) “Well,
Chapter 6 Findings of online-group-critique tasks and additional findings

your question can use our advanced technology to solve it.”

Online response 17

“All right. Everyone has different opinions so the issue is worth discussing.”

(Reflection – Yun, OG3, Week 14: To legalise private debt-collection agents or not)

6.1.3 Process of Online Meaning Construction

One thread from Week 16 of the in-class online group critiques from OG3 was analysed to examine the students’ process of online meaning construction. Unlike in small group online discussions, the process of meaning construction during in-class critiques began with a group argument and ended with a modified group argument (see Table 6.1) that contained agreed upon ideas, thoughts or concepts that students co-constructed in their small group discussion. The interaction sequence of the meaning construction process in online group critique was the opposite of the sequence in small group discussion.

The first response began with a question requesting an elaboration. As shown in posting 2, this question was raised to solicit solutions to the problems that were caused by tourism. Providing solutions was one point for discussion identified in this question that needed to be addressed. The probing question elicited some elaborated opinions that incorporated new supporting ideas (#P3 and #P4). In response to these elaborated opinions, students reciprocated by communicating their agreement with supporting ideas, or by asking another question (#P5, #P7 and #P9). “Showing agreement” and
“probing questions” were two major interaction functions that students performed in order to understand and make sense of the meanings relating to the topic in others’ opinions. The interaction function of showing agreements corresponded to comment statements generated by the students; and the function of probing questions was evident in the question statements they supplied (Section 5.2.3 – Online participation and interaction).

Declaring agreement with supporting ideas appeared to encourage new thoughts on the subject. For example, in posting 7, Izhi supported the other group’s argument and agreed that environmental damage was inevitable, but could be effectively prevented by promoting tourism. Izhi related this idea to the concept of “a stimulus leads to progress” (#P7). Probing questions were posited predominantly to elicit elaborated opinions or to request clarifications, but these statements seldom espoused new ideas and thoughts (#P2, #P5, #P9 and #P10). These question statements provided evidence that the students were able to think reflectively by questioning others’ ideas or statements presented. This effort sparked new ideas and thoughts in more elaborated statements (#P4 and #P6) which correspond to the discussion statements.

The nature of the group critique task – i.e., two groups of students required to critique and to defend – stimulated the delivery of acknowledging statements (#P8) which were not found in small group discussions. These statements fulfilled the social talk function (section 5.2.3 – Online participation and interaction); acknowledging feedback from
others not only indicated that the students understood each others’ opinions, it also increased interpersonal relationships in a positive way. Students usually acknowledged feedback without sharing new ideas. In working to achieve the task goal of modifying their group argument, the students engaged in meaning construction of texts. The resulting modified argument (#P12) confirmed that students had made both local revisions and global revisions after receiving and evaluating feedback from others.

The term “local revisions” refers to grammatical corrections of errors such as redundant words, misuse of punctuation and incorrect subject-verb agreements, while the phrase “global revisions” refers to corrections on the style, organisation and content (Yang et al., 2010) of the material. Not surprisingly, new information or ideas hardly ever accompanied local revisions, i.e., grammatical corrections. On the other hand, students appeared to give a great deal of attention to making global revisions by adding new thoughts in new sentences. The intervention of group members who posed questions helped to provide global suggestions that improved the text of the final argument. Although the accuracy of the text revisions was problematic, the work showed that the students had engaged in the process of meaning construction.
Table 6.1: Excerpts from in-class Group critique: Tourism today, Week 16

| P1# | We agree to promote tourism. Although tourism will be damaging the surrounding, but we think it point of tourism industry system planning. The good system planning can create a better development environment. Contrast, this will cause damage to decline. Every country has culture so sometimes tourism and local peoples will has the dispute. Different culture is easy to cause dispute but it also has a chance to understand other countries. Tourism also creates many good jobs and careers. |
| P2# | Are there any ways to improve the environment? (Cheng) |
| P3# | Yes, it can use a profit to maintain nature. (Hua) |
| P4# | We think local people can not have ability to learn how to run good in this area of culture industries, but government and business leader can be provide funding assistance to teach them how to operate the areas to enable them to refine the environment. Because Local people understand of their cultural background, characteristics and the ecological environment, to learn if people can integrate the new knowledge will be the deep and creating a culture, then there must of creating an awareness and attract people to both human, beautiful environment and the characteristics of business areas! (Yun) |
| P5# | I agree their view. But you have any solution to the shortcomings of the method you mentioned. (Xie) |
| P6# | The good system planning can create a better development environment. Local people understand their culture as well as ecological and the tourism industry is the availability of funds and good management methods. They must cooperate with each other, in order not to damage the local environment to make a profit. (Yun) |
| P7# | I also agree with his point of view, tourism has brought a lot of shortcomings but also relative to promote local development. A stimulus there is progress. Effectively prevent damage to tourism industry and harm reduction. (Izhi) |

#P: posting
Table 6.1 (continued): Excerpts from in-class Group critique: Tourism today, Week 16

<table>
<thead>
<tr>
<th>#P</th>
<th>Excerpts from in-class Group critique: Tourism today, Week 16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P8#</strong></td>
<td>Thank your view, about “Have stimulus there is progress.”, I think the sentence is wonderful. (Yun)</td>
</tr>
<tr>
<td><strong>P9#</strong></td>
<td>I agree your points. But your advantages point than shortcoming point. Can you say more shortcoming to promote tourism? (Sling)</td>
</tr>
<tr>
<td><strong>P10#</strong></td>
<td>What is your means? Do you want to us say more shortcoming? (Yun)</td>
</tr>
<tr>
<td><strong>P11#</strong></td>
<td>yes! (Sling)</td>
</tr>
<tr>
<td><strong>P12#</strong></td>
<td>We agree to promote tourism. Although tourism will be damage the surrounding but we think it important point of tourism industry system planning. Good planning can create a better development environment, contracy, this will be cause decline. Every countries has their culture so sometimes tourism and local peoples will has the dispute. Different culture is easy to cause dispute but it also has a chance to understand other countries. Local people understand their culture as well as ecological and the tourism industry and government can be provide funding assistance to teach them how to operate the areas to enable them to refine the environment and good management methods. They must cooperate with each other, in order not to damage the local environment to make a profit. If people can integrate the new knowledge, then there can become of creating an awareness and attract people to both human, beautiful environment and the characteristics of business areas. Tourism also creates many good jobs and careers.</td>
</tr>
</tbody>
</table>

Note: Students’ English errors were not corrected in order to genuinely show the process of meaning construction during online discussion. The accuracy was not the focus of the present research.

#P: posting
The process of online meaning construction is illustrated as a flow pattern (see Figure 6.5) which begins with a group argument and is followed by a probing question (question statement), an elaborated opinion (discussion statement), an affirmative comment (comment statement), further elaborated opinions, further probing questions or affirmative comments, and acknowledgements, ending with a modified group argument. Comment and question statements, which were the most prevalent type of student responses in online group critique, did not occur in a rigid sequence, and it is probable that these statements might have elicited further discussion statements.

Figure 6.5: Process of online meaning construction (in-class online group critique)

6.2 Out-of-class Online-group-critique Task

Out-of-class group critique took place for four weeks after class time. Each discussion was based on one topic and lasted for one week. The goal of the out-of-class group critique task was the same as the in-class group critique goal (see Section 6.1). A quantitative analysis of online discussion logs of the three groups first illustrates students’ online participation, and is followed by a qualitative analysis of students’
online interaction and the process of meaning construction.

6.2.1 Online Participation

The number of online posts and the number of contributors were analysed to determine the rate of online participation. According to the data, in four topic discussions, the three groups of students generated 61% (85 posts) of the total number of posts while teachers contributed 39% (54 posts). Of the three groups, OG1 members contributed the most and OG2 members produced the least. Of the total number of student posts, 46% were generated by OG1; 18% were contributed by OG2; and 36% were produced by OG3. Critiquing responses accounted for 52% and defending responses represented 48% of the total number of posts. Each group generated slightly more critiquing responses than defending responses; however, the frequency of these two types of responses varied across groups (Figure 6.6). This finding indicates that the students participated more eagerly in critiquing others’ arguments or opinions than in defending their own arguments during out-of-class group critique.

Figure 6.6: Number of posts generated across groups

![Bar chart showing the number of posts generated across groups.](image)
With regard to the number of contributors, the data substantiated that more students (25%~80%) were involved in weekly critiques than in responding to the other group’s comments (20%~50%) as shown in Figure 6.7. Although the participation rate was higher during critiques, an analysis of the number of contributing posts revealed that those students who were involved in defending their group argument contributed more posts in weekly discussions. This finding indicates that giving critiques increased the students’ participation rate while defending their group arguments influenced them more in the direction of individual contributions. One phenomenon to be noted was that not all students contribute to out-of-class online discussion in spite of the two post requirement.

**Figure 6.7: Number of contributors across groups**

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>17</td>
<td>17</td>
<td>17</td>
</tr>
</tbody>
</table>

6.2.2 Online Interaction

The students’ online discussion postings, including independent messages and interactive messages, were analysed to examine their online interaction functions. Of 85 posts, 97 codes were analysed based on the same category framework (see 4.5.2). The
findings showed that students performed a range of interaction functions while engaging in online discussions. According to the data, discussion (29%), comment (26%) and question (26%) were the three predominant interaction functions, whereas social talk (12%) and synthesizing (7%) occurred infrequently across the three groups, as shown in Figure 6.8.

*Figure 6.8: Percentage of online interaction functions across groups*

Note. Percentages were rounded to the nearest whole number.

Overall, both similarities and differences between groups were discovered with regard to member interactions. Analysis of the data (Figure 6.9) established that all three groups most often gave comments and raised questions when critiquing another group’s argument, and expressed thoughts or elaborated opinions principally when defending their own arguments. Students engaged in social talk less often during discussion, and synthesized opinions only after defending their group arguments. The frequency of all
these types of interactions varied relatively across the groups. More detailed accounts of the incidence of each interaction function are described as follows:

**Figure 6.9: Frequency of online interaction functions across groups**

Discussion was the chief interaction function that occurred most frequently (22%) when students defended their group arguments. Both OG1 and OG2 surpassed OG3 in the number of discussion statements made (Figure 6.9). The incidence of discussion statements during critiques was low (7%). Of the total number of discussion statements, 36% corresponded to expression of thoughts, whereas elaboration of opinions represented 64% of the statements. Students elaborated opinions chiefly in response to others’ prompting questions, rather than in reply to the other group’s arguments; this suggests that students spent a great deal of time elaborating their opinions during discussions after class.

Comment was one leading interaction function (22%) that predominated during critiques. OG3 overshadowed OG1 and OG2 with regard to the number of comment
statements submitted when critiquing others’ arguments. Across all three groups, comment statements were uncommon (4%) when students were defending their group arguments. Students readily expressed agreement or gave affirmative comments in response to the other group’s arguments. Within the comment function, non-substantive comments comprised 56% of the statements while substantive comments represented 44% of the total number, revealing an inclination for students to offer comments without supporting them by including elaborated opinions.

Question was another commonly occurring interaction function (20%) during critiques. Students actively raised questions to request further elaborations, explanations and clarifications. Question statements were mostly used to elicit opinions or to start dialogues without seeking direct or correct answers; information-seeking questions with direct or correct answers were not found in student discussions. In general, question statements seldom occurred when students were defending their group argument; however, OG1 student Niya frequently prompted questions to challenge the other's comments and defend her own group arguments. Students also occasionally raised questions after giving comments to facilitate further discussion (online response 19), a phenomenon that was found in discussions across all three groups.

*Online response 19*

“I think human resources is [are] important, too.” (Non-substantive comment to show affirmative response) “Could you point out what kind of Human resources
what to use?” (Question for Explanation request – Tian, OG1, Week 7: Key duties of CEOs)

Social talk was found only in the discussions of OG1 and OG3. A student in OG3, Yun, often acknowledged others’ comments, expressed apologies and signalled a communication gap in order to reduce tension when defending group arguments (online response 20, 21 and 22). There were few synthesizing statements, found only in the modified argument. Only the members of OG1 and OG3 modified their original group arguments after critique. OG2 members did not offer social expressions, nor did they modify their original group argument as the requirement requested. Students generally modified the original group arguments by adding new information or ideas. The extent to which the argument was modified manifested the level of group members’ engagement in the discussion.

Online response 20

“I may have some question[s], but they are only word[s] or grammar. It is myself [my own] problem. Thank you.” (Social talk to show acknowledgement – Yun, OG3, Week 7: Key duties of CEOs)

Online response 21

“I really do not understand what the teacher said. I explain it one more time.” (Social talk to show communication gap – Yun, OG3, Week 7: Key duties of CEOs)

Online response 22
"I am sorry for the mistake. I type it wrong. It should be companies in China. It’s a typing mistake. I am sorry for causing the trouble, I am sorry." (Social talk to express apology, Yun, OG3, Week 10: Successful leadership in China: expatriates, local leaders or a combined approach?)

6.2.3 Process of Online Meaning Construction

In week 17, the thread of out-of-class online group critique in OG3 was analysed to examine the students’ process of meaning construction. The goal of the out-of-class group critique task was the same as the in-class group critique goal (Section 6.1). Again, the process of meaning construction began with a group argument and ended with a modified group argument (Table 6.2) as it did during in-class group critique.

The first response began with a suggestion from the researcher that the students should identify one missing point that needed to be discussed (#P2), which facilitated a responding message that included more elaborated ideas (#P3). Another suggestion was given reminding students to modify their argument after some discussion (#P4). These suggestions from the researcher corresponded with scaffolding statements that did not contain new information or ideas, but could spark elaborated responses with new ideas relevant to the topic under discussion. The researcher therefore became a key person in facilitating discussion during the out-of-class group critique.

Other interaction functions that arose were “showing agreement” and “probing questions”. Yin expressed her agreement with the other group’s argument, and added a
probing question intended to clarify the term “opportunistic behaviour” (#P6). “Showing agreement” and “probing questions” correspond with comment and question statements (see Section 5.2.3 – Online participation and interaction) used to understand and make sense of others’ opinions. Although no new ideas arose as a result of these two types of statements, they did spark further elaborated opinions (#P7). Elaborated statements in reply to questions or suggestions were directly related to discussion statements (see Section 5.2.3 – Online participation and interaction) and provided new information and ideas (#P3 and #P7).

The nature of inter-group discussion facilitated the exchange of acknowledging statements (#P8 and #P9) which were similar to informal conversations; such acknowledgments of feedback and others’ comments corresponded to the social talk function (Section 5.2.3 – Online participation and interaction), and increased interpersonal relationships without sharing new ideas. Compared with the dynamics during in-class group critique, the discussion outside the classroom was usually supported by several students who used fewer statements that functioned as “showing agreement” (#P6), “probing questions” (#P6), “interpreting ideas” (#P3, and #P7), and “acknowledging feedback”. As required by the task goal, the students modified the group argument by revising the texts and the organisation (#P12).

The text revision in the modified argument did not include local revision (Section 6.1.3) because students did not focus on grammatical corrections; instead, they concentrated
on global revision (Section 6.1.3) by elaborating ideas and providing interpretations of a concept after receiving and evaluating feedback from other interlocutors. It was noted that the modified argument exhibited a communication gap in the discussion. Students failed to make reference to the information that related to the researcher’s suggestion (#P10), which suggests the possibility that there might also have been communication gaps in the text-based discussion outside the classroom.

Table 6.2: Excerpts from out-of-class online group critique: Tourism and Globalization, Week 17

<table>
<thead>
<tr>
<th>P1#</th>
<th>If we were the manager of a mid-size travel agency in Taiwan, we will <strong>use strategic alliances</strong>. Because the scale and financial capability are not enough strong so we think should be enter alliances.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group argument</td>
<td>Strategic alliances enable business to gain competitive <strong>advantage</strong> through access to a partner’s <strong>resources</strong>, including markets, technologies, capital and people. Teaming up with others adds complementary resources and capabilities, enabling participants to grow and expand more quickly and efficiently. The advantage have reduce cost, reduce risk, technology transfer and Increase the efficiency of decision-making. The <strong>disadvantage</strong> have alliance member have <strong>opportunistic behavior</strong>, agency problem. Afterward, to <strong>improve these shortcomings</strong> we have to do <strong>method</strong>: Understanding of each other and some members of the interest and the resources, adjustment of each other’s cultural differences, union leaders should have good relations and business management skills that are most important success enter alliances element.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P2#</th>
<th>You don’t mention which <strong>companies</strong> you are going to <strong>team up</strong>. Advantages you pointed out should be based on the benefits you may gain from the companies you team up. It is good to be more specific. (Researcher)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinpointing missing points in the argument</td>
<td></td>
</tr>
</tbody>
</table>

P#: posting
**Table 6.2 (continued): Excerpts from out-of-class online group critique (Tourism and Globalization, Week 17)**

| P3# | Cooperation of the companies in the relevant units in tourist areas. For example, near the famous tourist attractions, leisure farms or family businesses could form a consortium and tourist hotels, tourism, insurance, transportation industries to establish mechanisms for cooperation or alliances. (Yun) |
| P4# | After some discussion, it will be good if you modify your answer to a more completed one. (Researcher) |
| P5# | If we were the manager of a midsize travel agency in Taiwan, we will use strategic alliances. Because the scale and financial capability are not enough strong so we think should be enter alliances. Strategic alliances enable business to gain competitive advantage through access to a partner's resources, including markets, technologies, capital and people. Teaming up with others adds complementary resources and capabilities, enabling participants to grow and expand more quickly and efficiently. The advantage have reduce cost, reduce risk, technology transfer and increase the efficiency of decision-making. The disadvantage have alliance member have opportunistic behavior, agency problem. Afterward, to improve these shortcomings we have to do method: Understanding of each other and some members of the interest and the resources, adjustment of each other's cultural differences, union leaders should have good relations and business management skills that are most important success enter alliances element. (Yun) |
| P6# | I agree yours point. Yours view is very good. But I don’t understand why have opportunistic behavior? Can you explain it? (Yin) |
| P7# | Opportunistic behavior is means members participate in activities without a clear monitoring mechanism and they do not bear the success or failure of the alliance of the entire risk and cost so the input level of each member will be retained. Through strategic alliances and even hurt other members to increase their company's interest. Therefore, I think this is also a drawback. (Yun) |

P#: posting
Table 6.2 (continued): Excerpts from out-of-class online group critique (Tourism and Globalization, Week 17)

<table>
<thead>
<tr>
<th>P8#</th>
<th>Thank you for your explanation. It is very clear. (Yin)</th>
<th>Acknowledging feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>P9#</td>
<td>I also want to thank you advise. (Yun)</td>
<td>Acknowledging comment</td>
</tr>
<tr>
<td>P10#</td>
<td>If you made reference to the information in the article, you may use: According to the article of ‘……’, strategic alliances enable business to gain competitive advantage through access to a partner's resources, including markets, technologies, capital and people. Teaming up with others adds complementary resources and capabilities, enabling participants to grow and expand more quickly and efficiently. (Researcher)</td>
<td>Explaining how to make reference to information</td>
</tr>
<tr>
<td>P11#</td>
<td>Ok, I understand. I will be improve to next time. (Yun)</td>
<td>Showing understanding</td>
</tr>
<tr>
<td>P12#</td>
<td>If we were the manager of a midsize travel agency in Taiwan, we will use strategic alliances. Because the scale and financial capability are not enough strong so we think should be enter alliances. Thanks to globalization, in order to gain competitive advantage, and benefit from a partner’s resources is important. According to the article of “Strategic alliances enable business to gain competitive advantage through access to a partner's resources, including markets, technologies, capital and people. Teaming up with others adds complementary resources and capabilities, enabling participants to grow and expand more quickly and efficiently.” Cooperation of the companies in the relevant units in tourist areas. Example, near the famous tourist attractions, leisure farms or family businesses could form a consortium, and tourist hotels, tourism, insurance transportation industries, to establish mechanisms for cooperation or alliances. The advantage have reduce cost, reduce risk, technology transfer and increase the efficiency of decision-making. The disadvantage have alliance member have opportunistic behaviour, agency problem. And the opportunistic behaviour is means members participate in activities without a clear monitoring mechanism and they do not bear the success or failure of the alliance of the entire risk and cost so the input level of each member will be retained. Through strategic alliances and even hurt other members to increase their company’s interest. Therefore, we think this is also a drawback.</td>
<td>Modifying group argument</td>
</tr>
</tbody>
</table>

P#: posting
Table 6.2 (continued): Excerpts from out-of-class online group critique (Tourism and Globalization, Week 17)

Afterward, to improve these shortcomings we have to do method: Understanding of each other and some members of the interest and the resources, adjustment of each other’s cultural differences, union leaders should have good relations and business management skills that are most important success enter alliances element. The companies are interdependent. They need to share resources for each other.

P#: posting

Note: Students’ English errors were not corrected in order to genuinely show the process of meaning construction during online discussion. The accuracy was not the focus of the present research.

The process of online meaning construction is illustrated as a flow pattern (Figure 6.10) which begins with a group argument and is followed by a suggestion for discussion (scaffolding statement), an elaborated opinion (discussion statement), an affirmative comment (comment statement) or probing question (question statement) and acknowledgements (social talks), then ends with a modified argument. Scaffolding, comment and question statements did not occur in a rigid sequence during the process, and the statements might have elicited further discussion statements.

Figure 6.10: Process of online meaning construction (out-of-class online group critique)

GA : Group argument
D : Discussion statement
C : Comment statement
Q : Question statement
SCAF: Scaffolding statement
ACK : Acknowledging statement
MA : Modified argument
6.3 Additional Findings

In conjunction with observation of the three online-discussion-based tasks, the students’ relationship with the teachers in both face-to-face and online discussions was also documented, with a focus on the provision of teacher scaffolds. In addition, another two course tasks, a traditional lecture and a student presentation, were also observed to ensure a basic understanding of teacher-student and student-student interactions, and the strategies used in a conventional undergraduate English class. The lecture and student presentation were commonly implemented in a traditional English class at a Taiwanese university.

6.3.1 Teacher Scaffolds in Three Discussion Tasks

The instructor and the researcher (hereafter referred to as “teacher”) were both involved in the course tasks to some degree and played different roles. The instructor was the key person who provided explicit instruction, prior knowledge, guidelines for discussion, discussion facilitation, language corrections and learning assessment, while the researcher worked as a teaching assistant, who aided the instructor with task design and with online discussion facilitation. Both had online posts to facilitate discussion online. Analyses of the observation data and online discussion logs established that teachers provided various scaffolds while interacting with students in both face-to-face and online contexts.
Teacher Scaffolds in Face-to-face Discussion

In the face-to-face context, teachers were observed to provide emotional support as well as assistance in resolving technical problems, language-related problems, and topic-related problems. Teachers offered encouragement and positive feedback to students to boost their participation, particularly to silent students. For example, the researcher encouraged Cai, a student who was not acquainted with his group members, to join the oral discussion taking place between other members to synthesize opinions for the group argument. In addition, the instructor gave oral praise with regard to students’ engaged reflections online and to the improvement in their learning attitudes and positive performance. More detailed accounts that recorded teachers’ interaction with the students in face-to-face discussion were shown in Appendix 16.

One support required for the task was technical assistance, which included help with the computer, with Internet problems and with accessing resources online. Technical problems were inevitable in the language computer laboratory. Prior to discussions, the instructor arranged for usable computers that the students could work with whenever breakdown problems occurred. The researcher demonstrated how to download the outside reading articles, how to submit assignments, and how to access the discussion forum (see Appendix 16). Technical problems were managed in order to be solved prior to discussion, so as not to delay the discussion progress.
Another important form of assistance was language support. Prior to discussion, the instructor distinctly explained the assigned reading articles with regard to grammar, vocabulary and sentence structures, to aid students with their English language learning. She also pointed out key language errors that students made in the online discussion. Due to the big class size with ten groups of four to six students, the instructor observed the face-to-face discussion in each group and randomly assisted students in structuring the L2. To improve students’ topic knowledge, she summarised major points in the articles and used a PowerPoint demonstration to explain the direction of the discussion questions in detail.

Teacher Scaffolds in Online Discussion

Teachers were observed to participate at different levels in three online discussions. They participated most frequently in out-of-class group critique (39%), followed by in-class group critique (12%) and small group discussion (9%). In the online discussion context, teacher participation consisted mainly of language-related and topic-related assistance, as well as supplying positive feedback to facilitate discussion.

During the discussion, the instructor provided implicit or explicit scaffolding to correct students’ language problems. For example, the instructor corrected grammar errors: “I agree with your opinion instead of I am agree to” (Small group discussion, Group 3, Week 6: Taiwan’s high-tech future); gave suggestions regarding the use of words: “You use so many difficult word. Try to use your own words.” (Small group discussion, Group
Chapter 6 Findings of online-group-critique tasks and additional findings

2, Week 15: A science of politics) or regarding writing structure; “You’d better write a paragraph instead of listing the pros and cons.” (In-class group critique, Group 1, Week 6: Taiwan’s high-tech future). This type of language learning support improves text revisions, which are crucial to advance the L2.

Besides language support, topic-related information or guidance was also found to be essential in online discussion. This type of support refers to teachers assisting students in increasing their reflection on the material under discussion. Teachers participated randomly in students’ discussions, providing support by posing questions to elicit opinions, or requesting clarifications, elaborations or explanations. For example, the instructor prompted further discussion with the probing question: “Why didn’t I see any posting?” (Small group discussion, Group 3, Week 6: Taiwan’s hi-tech future). As an alternative strategy, she posed a question that requested clarification of the students’ opinions: “Do you mean not to import the US beef at all? But the US beef is so delicious!” (Small group discussion, Group 1, Week 15: For or against to bar certain US beef).

Another type of topic-related support was provided by directing student discussion with relevant guidance and suggestions. For instance, the instructor directed the students to continue their discussion of some required points with the following suggestion: “Do you have some common thoughts now? Prioritize the key duties of the CEO and give weights to them.” (Small group discussion, Group 1 Week 7: Why CEOs matter).
topic-related support offered by the instructor was vitally important to bring about the deeper reflection and proper direction necessary to achieve the task goal.

Another valuable form of support during the task was positive feedback to acknowledge the students’ contributions, which occurred when teachers responded to students’ opinions by giving affirmative statements such as “*Good that you refer to the reading articles.*” (Small group online discussion, Group 2, Week 6: Taiwan’s hi-tech future) and “*Your group gave many interesting opinions.*” (Out-of-class group critique, Group 1, Week 10: Developing the next generation of Chinese business leaders). Teachers also acknowledged the students’ replies to questions with statements such as “*Thanks for your explanation. It is clearer now*” (Out-of-class group critique, Group 3, Week 7: Why CEOs matter) and “*Thank you for modifying your answer*” (Out-of-class group critique, Group 1, Week 15: A science of politics). Although online statements that render affective support may not elicit more opinions, they may still sustain participation.

### 6.3.2 Teacher-led Instruction

This section provides a summary of the researcher’s observation of teacher-led instruction, which involved recording handwritten notes of the instructor’s teaching strategies, the use of language and the types of interactions that took place during the lecture. The traditional lecture, which was conducted in the language laboratory, started in the first period of the class and lasted for 50 minutes. The instructor used GTM and
Chapter 6 Findings of online-group-critique tasks and additional findings

ALM teaching techniques during her lecture. The GTM technique was used to improve text comprehension and to transmit language knowledge. The instructor directly translated reading passages and vocabulary from a whole-English textbook into Chinese. In addition, she taught English grammar by providing extensive explanations in L1.

The ALM technique was practiced to develop speaking and listening skills. Sometimes individual students were randomly assigned to read the assigned article aloud, paragraph by paragraph; and sometimes all the students were asked to read the text aloud by following a CD-ROM with the purpose of practicing pronunciation. The focus of the teaching was on achieving accuracy in the target language. The instructor also used assessment as a third teaching method. After the lecture, the students were given a quiz with five multiple choice questions to evaluate their learning, which constitutes an example of a test-oriented assessment strategy.

Along with observation of teaching strategies, the use of language by both instructor and students was examined. L1 was the main language spoken by the instructor to ask questions and to provide course instructions, definitions of English words, text meanings and grammar applications. Students used L1 to converse with each other or to answer the instructor’s questions. L1 was sometimes also used in solving technical problems that often occurred in the language laboratory. English was used for drill practice of pronunciation and sentence structures.
Three types of interaction were observed during the lecture: textual interaction, teacher-student interaction and student-student interaction. Multimedia (CD-ROM) and PowerPoint were used for ease of presentation and to improve textual interaction. To a certain extent, the use of CD-ROM promoted textual interaction in the form of closed tasks, such as drills and quizzes for practicing vocabulary, grammar or reading comprehension, which were aimed at increasing retention of the material.

The type of teacher-student interaction was one-way and teacher-centred. The instructor was unable to give attention to every student because of the large size of the class. She was only able to have limited physical interaction with one student at a time through the process of language practice. Most of the students merely sat in their seats, listened to the lecture and took notes. At times, the instructor facilitated interaction by asking questions. If the student who was called upon was unable to give a correct answer, the instructor either called on another student or gave answer herself. The instructor was the recognised authority in the class. Interaction among students rarely occurred because they had few chances to express their viewpoints in their own words. Students interacted only to comprehend the English of the assigned article.

6.3.3 Student Group Presentation

Student group presentations began in Week 7. They took place during the first period of the class and lasted for 50 to 100 minutes. This section briefly summarises the researcher’s observations (Appendix 16) with regard to student group presentations,
which was classified into the following four categories, according to the data collected: presentation strategy, teamwork strategy, interaction patterns and assessment. PowerPoint was an important visual aid used to enhance the presentation of the reading article, and the GTM was also adopted as another presentation-improvement strategy. The presenting groups explained English key words and the meaning of English sentences by translating them directly into L1. They also provided explanations in L1 to clarify the information required to understand the text, which can be looked upon as another type of teacher-led instruction.

In evaluating the teamwork, both the researcher and the instructor found that the students worked cooperatively and collaboratively within their group. The collaborating students demonstrated considerable commitment to their teamwork, although most of the group members were assigned to do one particular component of the work without further discussion and worked separately to accomplish their part for the presentation. The students worked well together in a group, and most groups worked cooperatively.

Analysis of the interactions revealed that the initiate-respond-feedback (IRF) pattern was the main type of teacher-student interaction that occurred in student group presentations. The instructor questioned the presenting group to test their understanding of the text, and the students answered the questions. The instructor then provided feedback by correcting English errors such as pronunciation, grammar and inaccurate explanations of the information in the reading material. The instructor acted principally
Chapter 6 Findings of online-group-critique tasks and additional findings

as an authority figure; there was no direct interaction between the presenting group and the other students, who merely listened to the presentation and took notes. The instructor assigned one indirect interaction between the presenting group and the other students by assigning some of the listeners to give oral comments to the presenting group.

Assessment of the student presentation was based on the accuracy of the language and the information presented, as well as the quality of their teamwork. The students who listened were given a quiz with five multiple choice questions immediately after the presentation to investigate their level of concentration when listening to the presentation by determining their degree of retention of the material, which would reflect part of their learning achievements.

6.4 Summary

The findings revealed that students were more interactive in online group critique in class than after class, owing to a higher level of participation. Taiwanese EFL students tended to be less motivated to participate after class and required teachers to provide more scaffolds to encourage their participation. Discussion, comment and question are the three main interaction functions that were exhibited by the students during online group critique performance. Other functions, such as scaffolding, social talk, synthesizing and reflection were less evident. The presence and absence of the particular functions indicates that a group critique task, aimed at evaluating the other
group’s arguments and defending one’s own argument, facilitates the exchanging of perspectives, making comments, and raising questions.

This chapter commenced by reporting the interactions of the three study groups in the contexts of in-class online group critique and out-of-class online group critique. Analyses of online participation and interaction and the processes of meaning construction in these two forms of online group critique were subsequently presented. This was followed by an observation of teacher scaffolds in the three discussion tasks. Lastly, the findings that resulted from observing traditional lecture-led instruction and student group presentations were recorded in the interest of comparing and contrasting the two learning modes. The next chapter will turn to the findings related to students’ perceptions of blended discussions for EFL learning in the Taiwanese context.
CHAPTER 7

FINDINGS OF STUDENTS’ PERCEPTIONS OF BLENDED DISCUSSIONS FOR EFL LEARNING

The previous two chapters, which comprise the first part of the findings from this research project, reported on the dynamic learning performance of students who were engaged in three blended discussion tasks. This chapter presents the second part of the findings in this thesis, which were obtained by employing a mixed method of collecting students’ perceptions of the blended discussions for EFL learning. The findings in this chapter will be addressed to answer Sub-research questions 4 and 5 in the following chapter.

The first part of the mix consists of qualitative focus group interviews, and the second part uses a quantitative questionnaire survey. The perceptions of 11 interviewees across the three observation groups and the perceptions of 45 respondents in the research class were analysed. The perception data were classified into themes, as highlighted in Sections 7.1 and 7.2; these were identified by analysing the interview and the survey data. An additional analysis of the survey respondents is included in Section 7.2.1, and an analysis of the interviewees is described in Section 5.1 referring to the group profile. The information in this chapter also complements and triangulates the qualitative results of group observations and students’ online logs recorded in the previous two chapters.
Chapter 7 Students’ perceptions of blended discussion for EFL learning

7.1 An Analysis of Interviewees’ Perceptions

The interview data were translated into English and then read, coded and categorised with the purpose of analysing recurring themes that emerged in association with students’ perceptions of blended online discussion tasks for their EFL learning. The following ten themes were identified: (1) materials and topics; (2) discussion tasks; (3) thinking competency; (4) language gains; (5) modes of communication; (6) interaction and participation; (7) willingness to use English; (8) the use of translation machines; (9) teachers’ scaffolds and (10) emotional conditions. Group accounts of these themes and other minor themes are provided in detail in Appendices 22, 23 and 24.

7.1.1 Materials and Topics

This category describes the students’ perceptions of reading articles and discussion topics. Articles were assigned for the students to read prior to discussions. Although the majority of the students interviewed did not make an extended effort to read the articles before class, they believed that reading materials increased their background knowledge related to the discussion. The students also agreed that reading the articles helped to stimulate more thoughts and increased the speed of mental processes during discussion. For example, Huan, Zhou and Min in focus group interview 1 (FGI 1) all expressed that “reading materials in advance helped me better know what to discuss by stimulating more thoughts.” Furthermore, Tian in focus group interview 3 (FGI 3) mentioned that “I would re-read the articles to simulate more thoughts for discussion.” Reading assigned articles prior to discussion “helped to think faster when responding to others”
(Zhou, Min, FGI 1); “shortened thinking process” (Xuan, FGI 2); “improved the speed of thinking process” (Tian, Yun, FGI 3).

In addition, the assigned reading assisted the students with limited English proficiency in expressing their opinions by providing them with English words and sentences from the articles that they could use in their discussion. As Niya (FGI 3) mentioned, “I would use sentences learnt from the reading articles to help me structure my words in English so I needed to be concentrated on the lecture in the first period of class.” This finding suggests that students were aware that reading the articles was useful in helping them to better apply the target language, but most of them did not learn how to make reference to the information in the articles to support their viewpoints: “I was not accustomed to make reference to the information by using English because it was difficult for me to do it” (Hua, FGI 1); “It was troublesome to make reference to the information in the assigned reading because it took extra time to do” (Anan, FGI 2). The observation of students’ inability to draw information from the reading texts for developing and supporting their own arguments highlighted a need for direct teaching in the classroom. Students can be assisted to develop related skills of making inference of the texts and forging connections between the texts through structured reading comprehension tasks. It was observed that blended learning by the use of the set of materials and tasks had been helpful to student learning (see Sections 7.2.2 and 7.2.3).
Discussing the topics improved the students’ comprehension of the topic knowledge and increased their construction of content knowledge. For example, Hua, Zhou and Min (FGI 1) reported that “discussing the topics, answering the questions or reading others’ posted messages facilitated the construction of knowledge and improved topic knowledge comprehension.” Furthermore, Niya and Tian (FGI 3) mentioned that “I constructed more topic knowledge as exchanging ideas with group members or members of other groups after reading the articles.” Discussing the topics also encouraged the students to continue to search for more articles relevant to the topics under discussion online: “I would search articles relevant to topics under discussion online” (Jing, FGI 3); “I would search more relevant knowledge online while responding to others’ questions” (Niya, FGI 3). Reading relevant articles online is believed to promote the construction of topic knowledge.

The students mainly derived topic knowledge from the assigned reading or from their major field of study: “I acquired much knowledge from the assigned reading articles which provided me information for discussion” (Xuan, FGI 2); “Some of the topic knowledge was gained from my major field of study” (Hua, Zhou, Min, FGI 1). The topics that related to the students’ major fields of study, life experiences and personal interests motivated them to discuss: “I could produce more thoughts if the topics under discussion were related to my life experiences or my major field of study” (Hue, FGI 1). Linking topic knowledge to experiences or to previous existing knowledge can be viewed as a process of knowledge construction that facilitates thinking for discussion.
7.1.2 Discussion Tasks

The students’ accounts of their perceptions of discussion tasks included their views on the sequence of the tasks and the task requirements, task preferences, discussion questions and the amount of time allotted for discussion. Their perceptions of the sequence of the tasks were positive, but their preferences differed with regard to the three tasks. The students generally agreed that this sequence of tasks made learning less boring and had more variety: “Blended discussions made learning less boring” (Tian, FGI 3); “Conducting blended discussions in and after class provided more varieties for learning” (Tian, Niya, Jing, Yun, FGI 3).

The students’ perceptions of the sequence of the tasks described a synergistic relation. Small group discussion within their groups prepared the students by generating more thoughts about the topic for the subsequent online group critique, while online critique between groups stimulated the students’ critical thinking with regard to the argument made in small group discussion: “Answering discussion questions in small group discussion stimulated individual cognitive thinking while commenting on others’ opinions facilitated critical thinking in group critique” (Tian, Niya, Jing, Yun, FGI 3). This synergistic relationship is believed to motivate the students to learn and promote their interaction with each other.
In addition to the above, the students’ accounts also reflected their perception that the two online-group-critique tasks played complementary roles. In-class online group critique motivated the students to discuss because of the instant-time nature and high participation of the process: “I preferred in-class online group critique. I benefited more from in-class mode of discussion” (Wen, Xuan, FGI 2); “I was more motivated to discuss in class. I was a bit lazy to join online discussion after class” (Jing, FGI 3).

Nevertheless, the activity did not provide sufficient time for thoughtful reflection and this might reduce learning effectiveness: “During in-class online discussion I would quickly read others’ posted messages without deep impression because I was expecting to finish the discussion before class recess” (Tian, FGI 3).

In contrast, out-of-class online group critique provided more time for reflection: “I preferred out-of-class online discussion because I had more time to think” (Anan, Zhi, FGI 2); “I have more time to think after class” (Tian, Niya, Jing, Yun, FGI 3).

Nevertheless, the asynchronous nature of the process failed to motivate student participation: “I often forgot to participate in out-of-class online discussion” (Wen, Anan, FGI 2); “If there weren’t many people involved in online discussion after class, I would choose to do it in class” (Niya, FGI 3). These findings indicate that the drawbacks of in-class online group critique can be overcome by out-of-class online group critique, and vice versa.
Another issue that arose with regard to the tasks was their requirements. The group argument and individual contributions during group critique were both assigned fifteen percent of the final course grade. Online discussion became an integral part of the course, not just an extension of classroom discussion. Receiving a grade for the course motivated the students to participate in the tasks: “I participated and contribute to online discussion mainly to receive marks” (Anan, Zhi, FGI 2). Similarly, the two-post minimum requirement contributed to the students’ extended efforts, and significantly motivated the students to vocalise their opinions: “The two-post minimum requirement encouraged those students who normally dozed off in class to read topic materials and contributed to the discussion” (Jing, FGI 3); “One of my group members who had a different major seldom expressed his opinions in the beginning, but eventually did contribute some constructive opinions in order to meet this task requirement” (Niya, FGI 3). The established requirements of the task appeared to provide an extrinsic motivation for the students.

The third aspect associated with the tasks was the students’ preferences. Small group discussion was favoured by most students. As Tian (FGI 3) expressed, small group discussion provided a sense of family: “Being in a small group gives me a sense of family.” In addition, small group discussion was student-centred and collaborative: “Small group discussion is more student-centred and collaborative because we directed the discussion ourselves” (Niya, Tian, Jing, Yun, FGI 3). Assisted by face-to-face interaction between members, an agreed group argument could be drawn promptly: “I
preferred small group discussion because every group member could draw to one group argument to agree upon” (Xuan, Anan, FGI 2). Group members worked together to synthesize their opinions and produced a group argument, which “required considerably more effort from the students than it would to merely post their individual opinions” (Jing, FGI 3).

Students’ preferences with regard to online group critique were distinguished by whether their level of interest was low or high. Students who evidenced a high interest focused on the exchanging of different views and group collaboration: “I liked online group critique because I found it challenging to have different viewpoints from others” (Zhi, FGI 2); “Working with group members increased self-confidence and a sense of belonging when critiquing the other group’s argument” (Tian, FGI 3). Interestingly, disagreements decreased the level of interest: “I personally did not like online group critique because other members might have different views from me” (Xuan, FGI 2). A feeling of isolation was another factor that decreased interest: “I felt alone to think during online group critique” (Xuan, Anan, FGI 2). In general, however, students felt online group critique to be an acceptable task for them to undertake.

Issues related to discussion questions also arose with regard to the tasks. Controversial questions required students to engage in mental processes related both to the content of the material and to the English language. This factor made the questions more difficult to answer: “Discussion questions were not difficult to answer, but using English to
interpret opinions made it difficult” (Hua, Zhou and Min, FGI 1); “Controversial questions required us to express our own thoughts” (Xuan, FGI 2). The number of questions also affected student responses: “One core question might generate more sub-questions. If I do not know how to respond all of the sub-questions, I would just respond to one of them” (Xuan, FGI 2). This finding suggests that the difficulty of the questions might affect the flow of the discussion and the amount of time needed for the task: “If the discussion questions were too challenging, the time required for discussion would not be enough” (Hua, Zhou, Min, FGI 1).

The amount of time allotted for tasks was also a significant concern expressed by the students. Different task goals affected the time required to accomplish the task. As Jing (FGI 2) mentioned, “Time was sufficient if we just shared personal opinions. It would take more time to work as a group to produce a group argument.” The restricted time allotted to online discussions inside the classroom facilitated participation and interaction: “I am motivated to reply when students responded to each other more rapidly that shortened the waiting time in online discussion in class” (Tian, FGI 3).

Out-of-class online discussion provided students more time for reflection: “I had sufficient time to brainstorm in out-of-class online discussion” (Xuan, Zhi, FGI 2). Nevertheless, the asynchronous time factor decreased the students’ motivation to participate in online discussion after class: “I normally would not respond after class because I did not have time” (Hua, Zhou, FGI 1). These findings indicate that a
combination of in-class and out-of-class online discussions would be most beneficial for the students.

7.1.3 Thinking Competency

All the students interviewed agreed that online discussion facilitated their thinking competency with regard to both cognitive and critical thinking. Small group discussion resulted in deeper thinking by requiring answers to questions that stimulated individual cognitive thinking: “Answering discussion questions in small group discussion stimulated individual cognitive thinking” (Niya, Jing, Yun, FGI 3). Students used strategies to facilitate their cognitive thinking, such as “making reference to the information in the articles to support viewpoints” (Niya, FGI 3) and “adding others’ opinions into mine as a new idea” (Jing, FGI 3).

Online group critique particularly facilitated critical thinking by requiring responses to others’ opinions: “I would think about some relevant issues that were not mentioned in the articles because issues stated in the articles were commonly referred. Instead, I would choose to think more critically” (Zhi, FGI 2); “After reviewing other's opinions, I took time to think how to disagree with their opinions when I have different views with them” (Niya, FGI 3). These findings indicate that interactive online discussion tasks generally improved students’ thinking competency.
7.1.4 Language Gains

Blended discussions benefited the students with regard to their English learning in terms of language awareness, writing and reading fluency and retention by requiring mental processes related to both the content of the discussion and the language. The students increased their language awareness by understanding problems in English: “Online discussion helped me better understanding my learning problems about English” (Hua, Zhou, Min, FGI 1). The students also perceived that their comprehension of the text was improved from organising the ideas in the articles and repeatedly reading posted messages, but text comprehension remained shallow during in-class discussion: “My reading comprehension was improved by organising ideas after reading the articles and by repeatedly reading others' online posted messages” (Min, FGI 1); “I had better reading comprehension during in-class discussion owing to time limit, but comprehension was shallow” (Niya, Jing, Yun, FGI 3).

Online discussion particularly improved students’ writing fluency. As Tian (FGI 3) mentioned, “I was able to express my opinions in English more fluently” when chatting online with English native speakers. Students’ writing competency in terms of English vocabulary, grammar, sentence structures, paraphrase, and retention was also improved by radical written practice although more English errors were made in online written exchanges: “English vocabulary, sentence structures, grammar and retention improved through repetitive English practice” (Niya, Tian, Jing, FGI 3); “I often used simple English sentences to paraphrase, but this might change my original meaning a bit”
Chapter 7 Students’ perceptions of blended discussion for EFL learning

(Hua, Min, FGI 1); “In-class online discussion promoted the speed of mental process in English but more language errors were made due to time limit” (Niya, Tian, Jing, Yun, FGI 3).

7.1.5 Modes of Communication

Blended discussions involved two different modes of communication: face-to-face and online. Face-to-face communication took place only in small group discussion, which required students to interact with their group members on an ongoing basis. The first type of support related to face-to-face communication was the promotion of task efficiency by opinion seeking, group work distribution and synthesis of group argument. For example, Xuan (FGI 2) mentioned that “I would verbally ask opinions from other group members to stimulate more ideas” and also “we discussed verbally to distribute group work.” All the students in FGI 2 agreed that “verbal discussion was quicker to clarify ideas and to summarise opinions for producing one group argument.”

The second type of support related to face-to-face communication resulted from allowing the students to obtain instant answers to questions related to content, discussion direction, and English language by giving them the opportunity to talk in L1. As the students in FG 3 expressed, they “chose to discuss face to face when asking English language questions and the direction of discussion from group members.” Furthermore, Wen (FGI 2) mentioned that “I would verbally discuss any queries related to the content or English language.” Communicating face-to-face had a tendency to
foster surface thinking to solve simple questions: “It was more effective and quicker to obtain instant responses through face-to-face discussion” (Zhou, Min, FGI 1); “Face-to-face discussion may not foster deep thinking” (Hua, FGI 1).

Online communication, another text-based medium required for all the three online discussion tasks, was found to promote exchanges of perspectives: “I would choose to respond online when someone replied my posted messages” (Min, FGI 1); “I would post my opinions after reviewing the other group’s arguments” (Tian, FGI 3). Written online communication was particularly nourished in online group critique which required students to comment on other group’s arguments and defend their own: “I would ask questions, read others’ responses to my opinions and respond to others’ posted messages in online group critique” (Hua, Min, FGI 1). Rapid written exchanges of perspectives during online discussion stimulated deep thinking: “Online discussion fostered deep thinking” (Hua, Min, FGI 1).

7.1.6 Interaction and Participation

Student interaction and participation in blended face-to-face and online discussions differed from in conventional classroom. In blended discussions, the instructor and the researcher additionally played a role as assistants to encourage participation, provide guidelines and facilitate discussion, rather than functioning as authority figures. Student accounts confirmed that their participation and interaction in blended discussions was facilitated: “Blended discussions promoted interaction and increased motivation” (Hua,
Zhou, Min, FGI 1). “Integrating online discussion into English class promoted student interaction” (Zhi, FGI 2); “I interacted more frequently with other members in blended discussions. There was very little interaction in the conventional English class” (Niya, Tian, Jing, FGI 3); “Online discussion promoted interaction and was more technology-oriented, compared to a board-writing traditional class.” (Tian, FGI 3).

The level of interaction between the students varied according to the task. Students interacted less frequently in small group discussion than in online group critique: “I think interaction within a group was not as active as that in group critique” (Wen, FGI 2); “Interaction was more active in online group critique because it involved other group’s participation” (Xuan, Zhi, FGI 2). Online interaction during group critique inside the classroom was higher than outside the classroom: “Interaction during in-class online group critique particularly motivated me to respond” (Hua, Zhou, Min, FGI); “We tended to have much higher response rate in online group critique in class” (Tian, Jing, Yun, FGI 3). This suggests the possibility that the number of participants involved and the response speed may influence the level of interaction between students.

The level of interaction during group critique, which required criticism and comment on another group’s argument as well as defence of their own, also varied according to the presence of agreements and disagreements: “I would respond to provide more opinions if someone’s ideas were the same as mine in order to have more interactions. If our
opinions were different, I would ignore” (Tian, FGI 3); “I would respond to defend my own opinions if someone’s thoughts were different from mine” (Niya, FGI 3). Significantly, familiarity between group members would stimulate more responses: “I was more motivated to respond to those members who I knew” (Wen, Xuan, FGI 2); “If group members were not acquainted with each other, they would not really share many ideas” (Niya, FGI 3). English proficiency also influenced the recurrence of interactions: “Lower English proficiency limited the interaction frequency” (Hua, FGI 1). It might be valuable to consider the aforementioned factors mentioned by the group members when attempting to maximise the level of student participation in blended discussion tasks.

7.1.7 Willingness to Use English

Students were found to be more willing to use English when participating in online discussion, refraining from annotating English sentences in L1 even when they were permitted to do so: “We insisted to use English for more practice” (Hua, Zhou, Min, FGI 1). Adding annotations in L1 appeared to discourage students from reading English texts in the postings or cause problems with typing: “Students would tend to read Chinese annotation only instead of English messages” (Xuan, FGI 2). “Students would read Chinese directly and skip reading English” (Tian, Niya, Yun, FGI 3). On the other hand, Chinese annotations also helped students to comprehend the thoughts expressed in the postings, as well as adding words to their English vocabulary (Jing, FGI 3).
Students’ increased willingness to use English was also reflected in their changing attitude towards English learning: “I did not dare to express my thoughts in English before because I was afraid of making errors in grammar and sentence, but now I dared to express my views in English owing to plenty of English practices through online discussion, I am more willing and have courage to use English now” (Tian, Jing, FGI 4). This improved attitude was also evident from their increased participation in extracurricular English activities: “I found that I was more able to chat in English with native speakers on Facebook now although they might not completely comprehend my meanings” (Jing, FGI 4). This development indicates that online discussion can make it easier or more comfortable for students to risk communicating in English.

### 7.1.8 The Use of Translation Machines

Although the mediating role of the translation machines was not part of this study, students’ accounts revealed some insights into the use of these tools, which might require further investigation (see Section 9.3). Students frequently used web translation software such as Google or Yahoo as a key language tool to assist them in interpreting English words, formulating thoughts in L1 and translating them into English: “I would use Google translation machine to translate Mandarin Chinese into English” (Wen, FGI 2). The use of this technique might be related to the students’ past experiences with rote learning in conventional English classes. The majority of the students experienced difficulty with translating their own words into English because they lacked ongoing English practice within real contexts. This difficulty with the translation process that
involved thinking and code switching between L1 and L2 drove the students to make use of web translation tools.

The use of translation machines affected the students’ English learning in both positive and negative ways. One positive effect was an improvement in their ability to structure English sentences. As Jing (FGI 3) mentioned, “I would use the translation machines to help me structure English sentences to express my opinions because I was not able to apply sentences that I learnt.” Machine translation also improved their comprehension of the text when translating from English into L1. In turn, this improved comprehension of the text then helped them to better understand the meaning of the postings: “If I did not understand others’ postings, I would paste words directly on Google for translation” (Xuan, FGI 2).

However, at times the use of machine translations resulted in negative or counterproductive effects to some extent. English translations produced by translation machines remained incomprehensible unless they were modified further. As Niya (FGI 3) stated, “I needed to translate others’ English postings into Mandarin Chinese again by using the translation machine to understand their meanings.” Another drawback was the likelihood of students becoming too dependent on translation machines, which would hinder the students from developing the ability to think in the target language. As Tian (FGI 3) commented, “I worried that I would be too dependent on the computer that made me lazy to think in English and used Google translation machine instead.”
7.1.9 Teachers’ Scaffolds

All the students interviewed expressed their expectation of receiving various types of feedback from teachers with regard to corrections of English errors, discussion moderation, and discussion direction: “I would expect the teacher to correct my grammar errors so I could learn from the mistakes” (Tian, FGI 3); “I would expect the teacher to give us more feedback and comments in online group critique” (Niya, Tian, Jing, FGI 3); “I would expect the teachers to direct our discussion to the right direction” (Tian, FGI 3). To augment the students’ acquisition of language knowledge, the instructor explicitly explained English mistakes in their postings: “I would concentrate on reviewing teachers’ corrections on our group argument” (Tian, FGI 3).

The instructor also moderated student discussions by summarising and analysing the course content to promote acquisition of knowledge, and provided explicit discussion guidelines to improve students’ discussion skills: “The instructor provided clear guidelines for discussion” (Tian, Niya, Jing, Yun, FGI 3). Both the instructor and the researcher directed discussions and guided students toward more critical thinking: “I expected teachers to lead me to think from another aspect” (Xuan, Zhi, FGI 2). These extended efforts exerted by the teachers were intended to provide students with guiding scaffolds that served as additional sources of extrinsic motivation: “Teachers’ responses motivated me to reply” (Min, FGI 1).
7.1.10 Emotional Conditions

The majority of the students who were interviewed stated that they found blended discussions to be an acceptable form of learning and expressed both positive and negative emotions with regard to blended discussions: “Blended face-to-face and online discussions were acceptable for me” (Hua, Zhou, Min, FGI 1); “Online discussion in a virtual environment is acceptable for me” (Wen, Zhi, FGI 2). Although some students at first had difficulty in adapting to the online discussion form, they gradually overcame this challenge: “At the beginning it was hard for me to adapt to this type of blended face-to-face and online discussions, but I become accustomed to it now” (Tian, Jing, Yun, Jing, FGI 3). Others were unable to fully adapt to the new method: “I am still not accustomed to this virtual learning environment” (Xuan, Anan, FGI 2). In addition, students found it easier to become distracted and browse irrelevant websites as a result of working with technology and the Internet: “I would easily get distracted when discussing online” (Tian, FGI 3).

Another negative emotion aroused by the difference between the traditional mode and the online mode of learning was a feeling of emptiness: “We used pen to write in physical mode but used keyboard to type in virtual mode. This difference made me to feel empty” (Zhi, FGI 2). Blended discussions, especially the in-class mode, also made some students feel pressured (Zhi, Wen, FGI 2). As Zhi stated, “I was pressured to discuss online in class. It produced a poor learning effect.” This synchronous time factor made the students feel pressured to respond immediately. These students found learning
in the traditional English class to be comparatively more relaxing than the new method: “Learning is more relaxing in the traditional English class” (Min, FGI 1); “I could relax with an empty mind in the traditional English class” (Tian, FGI 3).

The students also articulated positive feelings that influenced their learning in blended discussions. For example, Wen (FGI 2) expressed that “blended discussions were fun and interesting”. Xuan (FGI 2) mentioned that she did not doze off and dared not skip the class because her dialogues with others would be archived in electronic logs. Tian (FGI 3) revealed that “I needed to be more concentrated during blended discussions.” The majority of the students asserted that they learnt more through the interactive blended discussions than they did in the traditional class: “I learned more with blended discussions” (Xuan, Zhi, FGI 2; Niya, Tian, Jing, FGI 3). These findings communicate that blended discussions yield a wide scope of emotional reactions in EFL students in accordance with their different styles of learning.

7.2 An Analysis of Survey Respondents’ Perceptions

The first part of this section presents an analysis of the participants’ responses to a survey questionnaire which provides a detailed description of the demographic information and English learning background of the survey sample (see Appendix 25).

The second part of the section centres on the respondents’ perceptions in terms of their views about (1) discussion tasks, (2) text and content, (3) thinking competency, (4) language gains, (5) modes of communication, (6) interaction and participation, (7)
learning effectiveness, and (8) influential factors (see Appendix 26).

The questionnaire contained a total of 85 questions or items to be rated according to a five-point Likert scale indicating whether the subject strongly agrees, agrees, is neutral, strongly disagrees or disagrees with a specific statement. Student responses of “strongly agree” and “agree” were classified as positive; responses of “strongly disagree” and “disagree” were categorised as negative. An open-ended question was included to solicit any additional comments.

7.2.1 An Analysis of Survey Respondents

Demographic Information

A total number of 45 (out of 49) participating students (92%) responded to the questionnaire survey. Figures 7.1 and 7.2 represent the demographic information of survey respondents in terms of age, gender and major. This demographic data were not analysed to study any correlations as this was a quite homogeneous group with similar language and cultural background. Instead, the data aimed to supply the reader with a broad picture of the participating respondents. A statistical analysis in Figure 7.1 shows that 23 males (51%) and 22 females (49%) participated in the survey questionnaire. The age of the students ranged from 18 to 20 years. A majority of the respondents (71%) were 19 years old.
The respondents had ten different majors corresponding to the Department of Management. As shown in Figure 7.2, the majority (69%) were business-related majors such as Finance, Business Administration, Accounting, Tourism and International Business. The other 14 respondents (31%) were management-related majors such as Industrial Engineering and Management, Public policy and Management, Leisure Management, Hospitality Management, and Materials Science and Management.
English Learning Background

Figure 7.3 represents the English learning background of the respondents, which is considered to be a crucial influence on interaction in online discussion. The figures show that the majority of the respondents studied English for a period of 10 years (28%), and only 6 respondents (12%) studied English longer than 10 years. In terms of the respondents’ motivation to learn English, the majority (93%) were motivated, with 28 respondents (65%) classified at a medium level of motivation and 12 respondents (28%) at a medium-high level. Only 7% of the respondents perceived their motivation as low on a ten-point scale. (Point 1 to 3 represents a low level of motivation; point 4 to 6 shows a medium level and point 7 to 8 represents a medium-higher level.)

Figure 7.3: English learning background of survey respondents

Online discussion is directly related to the respondents’ two macro skills of reading and writing in English; those competencies are specifically reported here. As shown in Figure 7.4, the majority of the respondents recognised their reading and writing as
corresponding to a medium level of competence. Compared with the responses corresponding to good and bad levels of competence, more medium-level respondents identified writing as a more difficult skill than reading.

**Figure 7.4: Perceived English competence of survey respondents**

All respondents took the National English Test in Proficiency for All on the Web (NETPAW) twice (see Figure 7.5). All students are required to pass this online test before they can graduate from this university. The first test was administered prior to the use of online discussion. Only one student passed the intermediate level in reading proficiency. The second test was administered after two months of practice with online discussion. Four out of 49 students passed the intermediate level in reading proficiency. None of the respondents passed the intermediate level in writing proficiency. These findings suggest that online discussion practices have slightly contributed to the improvement of the respondents’ reading proficiency. The limited improvement could have been caused by the short time in which students were exposed to the blended
learning. As time goes on and students have more exposure to this learning mode with more repetitive practices in online discussion, more visible improvement may be observed in the long run. However, more research is needed for gathering empirical evidence to substantiate this observation.

\textit{Figure 7.5: Results of NETPAW proficiency test}

The respondents’ experience of online English learning is shown in Figure 7.6, illustrating that this was the participants’ first exposure to online discussion in English. Only 14 respondents (31\%) had had previous experience with online English learning, and 6 out of 14 respondents (13\%) had experienced online discussion in other courses that were delivered in Mandarin Chinese. None had experienced online discussion delivered in English.
Figure 7.6: Experience of online English learning

![Experience of online English learning](image1)

Experience of online English learning

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Experience of online discussion

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Web-translation tool was a language resource used to assist communication in online discussions. In Figure 7.7, it shows that only 6 respondents (13%) did not use a translation machine; the majority (87%) relied on web-aided translation. On a ten-point scale, a large percentage (69%) categorised their dependence on web-aided translation as heavy (4 to 10 point) during online discussions. Only 5 respondents (11%) reported a low dependence (1 to 3 points) on the use of web translation machines. These findings indicate that the majority of the respondents relied heavily on translation machines to translate their words into English.

Figure 7.7: Frequency of using web translation machines

![Frequency of using web translation](image2)

Frequency of using web translation

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</thead>
<tbody>
<tr>
<td>Missing</td>
<td>3</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Low</td>
<td>5</td>
<td>13%</td>
<td>21%</td>
</tr>
<tr>
<td>Medium</td>
<td>23</td>
<td>58%</td>
<td></td>
</tr>
</tbody>
</table>

Note. Percentages were rounded to the nearest whole number.
7.2.2 Discussion Tasks

The fifteen Likert scale items (see Appendix 26 – Discussion tasks) were calculated by percentages to analyse students’ perceptions of online discussion tasks in terms of their opinions about the sequence of the tasks and their task preferences. Students’ responses indicate that they perceived the sequence of the three tasks as maximising learning. Although discussion tasks did not intensify the students’ interest, motivation and satisfaction, in-class online discussions greatly strengthened their engagement in learning.

The students held positive views about the sequence of the three tasks as illustrated in Figure 7.8. The majority of the respondents (56%) agreed that the first task – small group discussion – prepared them for the next task, online group critique. Through discussion with their group members, the students learnt to give comments expressing their agreement or disagreement with other members’ opinions. Approximately half (49%–51%) agreed that in-class and out-of class online group critique exerted a positive influence on each other. In-class online group critique prepared the students with discussion skills to apply later in their interaction with others during out-of-class online group critique (49%); while out-of-class online group critique helped the students to think critically during in-class online group critique (51%). The sequence of these three tasks served to maximise learning, as expressed by Zheng, “I was not tired of discussions because I can learn something out of it” (Appendix 26 – Discussion task).
Figure 7.8: Response rate in percentage of perceived task sequence

<table>
<thead>
<tr>
<th>Task Sequence</th>
<th>Positive</th>
<th>Neutral</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small group discussion</td>
<td>56</td>
<td>40</td>
<td>4</td>
</tr>
<tr>
<td>In-class online group critique</td>
<td>49</td>
<td>31</td>
<td>20</td>
</tr>
<tr>
<td>Out-of-class online group critique</td>
<td>51</td>
<td>38</td>
<td>11</td>
</tr>
</tbody>
</table>

*Note.* Percentages were rounded to the nearest whole number.

Students’ preferences with regard to the three tasks reflected their level of interest, motivation, engagement, and satisfaction. Figure 7.9 illustrates that 38% of the respondents developed an interest in online discussion while 44% remained neutral. A percentage of 40 were motivated to participate in small group discussion, followed by in-class online group critique (35%) and out-of-class online group critique (24%). Small group discussion motivated students more, as expressed by Bin: “*small group discussion was meaningful and interesting.*” Yuzhi in particular supported this viewpoint by commenting that “*small group discussion was interesting and not bored when discussion and interaction among members became more frequent*” (Appendix 26 – Discussion task). Another 47% remained neutral towards small group discussion, and 38% were also neutral with regard to in-class group critique. Nevertheless, 44% of the respondents reported no motivation toward becoming involved in out-of-class group critique. Students did not favour out-of-class online discussion.
Overall, a majority of the respondents (64%) was engaged in the blended discussions (Figure 7.9), with 75% being engaged in group critique in class, and 62% feeling engaged in the small group discussions. However, student engagement in out-of-class group critique was lower (44%) compared to in-class online discussions, indicating that students were more engaged in online discussion inside the classroom. Nearly half of the respondents (47%) were satisfied with the blended discussions while 35% held a neutral view. Students expressed a higher level of satisfaction with online discussion in the small group (51%). However, their level of satisfaction with online group critique was lower (27%~33%), and particularly lower with out-of-class group critique; another 44%~47% remained neutral. Student comments also expressed their lack of satisfaction.
related to the difficulty in adapting to online discussion: “I felt that this new mode of learning was not suitable for me” (Ting); “Blended discussions were performed in a virtual environment which seemed to be out of reality” (Ma); “This new method was also more complicated than traditional one” (Zheng) (Appendix 26 – Discussion task).

7.2.3 Text and Content

Six Likert scale items (see Appendix 26 – text and content) were calculated by percentages to analyse student perceptions about construction of meaning and knowledge. The construction of meaning refers to the meaning of the texts while the construction of knowledge refers to knowledge of the content. As shown in Figure 7.10, student responses showed that they perceived their learning as being meaningful through collaborative construction of meaning with others (64%), particularly through in-class online group critique (51%). However, collaborative construction of meaning was not highly promoted in small group online discussion and out-of-class group critique, because less than half of the respondents (45%~33%) expressed positive views while the majority (45%~53%) remained neutral. Collaborative construction of meaning possibly facilitated construction of content knowledge (65%) that contributed to an improved understanding of the subject matter (53%). This finding is likely to be of crucial importance in attempting to promote cognitive thinking.
Figure 7.10: Response rate in percentage of perceived text and content

![Meaning construction of text and content](image)

*Note.* Percentages were rounded to the nearest whole number

### 7.2.4 Thinking Competency

Twelve Likert scale items (see Appendix 26 – thinking competency) were calculated by percentages to analyse student perceptions of their thinking competency. Student responses recorded that the online-discussion-based tasks were seen as being on-topic and improving individual reflection and brainstorming, although at different levels. As illustrated in Figure 7.11, a majority of the respondents (53%–71%) agreed that online discussions were highly on-topic, particularly in-class online group critique, while 24%–31% remained neutral.
Figure 7.11: Response rate in percentage of perceived thinking competency on topic

<table>
<thead>
<tr>
<th>Thinking competency-on topic</th>
<th>Positive</th>
<th>Neutral</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small group discussion</td>
<td>53</td>
<td>31</td>
<td>16</td>
</tr>
<tr>
<td>In-class group critique</td>
<td>74</td>
<td>25</td>
<td>1</td>
</tr>
<tr>
<td>Out-of-class group critique</td>
<td>65</td>
<td>31</td>
<td>4</td>
</tr>
</tbody>
</table>

Note. Percentages were rounded to the nearest whole number.

Figure 7.12 illustrates that more than half reported high individual reflection on the topic (58%~64%) and on others’ opinions (53%~56%) through small group discussion and in-class online group critique, while 33% to 35% remained neutral. These findings indicate that online discussion played an important role in promoting individual reflection on the topic and on others’ opinions. In contrast, out-of-class group critique did not inspire much individual reflection because less than half of the group (44%~47%) provided positive responses while 36%~38% remained neutral.

Figure 7.12: Response rate in percentage of perceived individual reflection

<table>
<thead>
<tr>
<th>Thinking competency-individual reflection</th>
<th>Positive</th>
<th>Neutral</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic-small group</td>
<td>58</td>
<td>33</td>
<td>9</td>
</tr>
<tr>
<td>Topic-group critique (in)</td>
<td>64</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td>Topic-group critique (out)</td>
<td>47</td>
<td>38</td>
<td>15</td>
</tr>
<tr>
<td>Opinions-small group</td>
<td>53</td>
<td>36</td>
<td>11</td>
</tr>
<tr>
<td>Opinions-group critique (in)</td>
<td>56</td>
<td>33</td>
<td>11</td>
</tr>
<tr>
<td>Opinions-group critique (out)</td>
<td>44</td>
<td>36</td>
<td>20</td>
</tr>
</tbody>
</table>

Note. Percentages were rounded to the nearest whole number.
In general, small group discussion increased brainstorming (64%) through interactions between group members (see Figure 7.13) while group critique was highly on-topic. In-class discussions greatly promoted individual reflection on the topic and on others’ opinions, as compared to out-of-class discussions. Online discussion improved cognitive thinking, as related by Lee, “I have improved my thinking processing skill through discussion” (Appendix 26 – thinking competency).

**Figure 7.13: Response rate in percentage of perceived brainstorming**

<table>
<thead>
<tr>
<th>Thinking competency-brainstorming</th>
<th>Positive</th>
<th>Neutral</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small group discussion</td>
<td>64</td>
<td>29</td>
<td>7</td>
</tr>
<tr>
<td>In-class group critique</td>
<td>56</td>
<td>35</td>
<td>9</td>
</tr>
<tr>
<td>Out-of-class group critique</td>
<td>38</td>
<td>44</td>
<td>18</td>
</tr>
</tbody>
</table>

*Note. Percentages were rounded to the nearest whole number*

### 7.2.5 Language Gains

Ten Likert scale items (see Appendix 26 – language gains) were calculated by percentages to analyse student perceptions of their language gains. Responses in Figure 7.14 showed that students view their language competence and comprehension of language knowledge as improved. A large percentage of the respondents (67%) indicated a great improvement of language knowledge resulting from text-based online
discussion, specifically an increased understanding of vocabulary and reading comprehension of 65%. A smaller percentage of the respondents (38%) agreed that retention had improved while 49% remained neutral viewpoints. As Ma commented, “hand-writing much improved my impression. It resulted in short-term retention if most students relied much on Web-translation” (Appendix 26 – language gains).

**Figure 7.14: Response rate in percentage of perceived language gains**

<table>
<thead>
<tr>
<th>Language gains</th>
<th>Positive</th>
<th>Neutral</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>awareness of language use</td>
<td>60</td>
<td>33</td>
<td>7</td>
</tr>
<tr>
<td>syntactical complexity</td>
<td>24</td>
<td>56</td>
<td>20</td>
</tr>
<tr>
<td>grammar</td>
<td>42</td>
<td>51</td>
<td>7</td>
</tr>
<tr>
<td>sentence structures</td>
<td>49</td>
<td>38</td>
<td>13</td>
</tr>
<tr>
<td>lexical density</td>
<td>53</td>
<td>38</td>
<td>9</td>
</tr>
<tr>
<td>writing competence</td>
<td>55</td>
<td>38</td>
<td>7</td>
</tr>
<tr>
<td>retention</td>
<td>38</td>
<td>49</td>
<td>13</td>
</tr>
<tr>
<td>reading comprehension</td>
<td>64</td>
<td>29</td>
<td>7</td>
</tr>
<tr>
<td>vocabulary</td>
<td>64</td>
<td>29</td>
<td>7</td>
</tr>
<tr>
<td>language knowledge</td>
<td>67</td>
<td>24</td>
<td>9</td>
</tr>
</tbody>
</table>

*Note. Percentages were rounded to the nearest whole number*

Approximately half (56%) of the respondents recognised that text-based online discussion improved their English writing competence. As Zheng commented, “I think the discussions helped increase my writing skill”. This might result in amplifying lexical density (53%), increased ability in identifying information contained within a text, and an improved understanding of sentence structures (49%) and grammar (42%).
These improvements helped to enhance the students’ awareness of the boost to their language use (60%). Yeh expressed that “my English language skill improved greatly” and Jing reported that “I learnt to express myself directly in English language” (Appendix 26 – language gains). Syntactically complex written English was the least likely augmented language skill (24%).

### 7.2.6 Modes of Communication

Sixteen Likert scale items (Appendix 26 – modes of communication) were calculated by percentages to analyse student perceptions with regard to face-to-face and online communication media. As shown in Figure 7.15, a large percentage (67%) of the respondents considered face-to-face communication to be communication-oriented and appropriate for guidance and information seeking. According to 64%, face-to-face discussion helped to clarify discussion direction and 67% reported that it enhanced the comprehension of online English text.

**Figure 7.15: Response rate in percentage of perceived face-to-face communication**

![Figure 7.15: Response rate in percentage of perceived face-to-face communication](image)

*Note. Percentages were rounded to the nearest whole number*
A majority of 71% agreed that online communication was opinion-oriented and appropriate for expression of thoughts, as illustrated in Figure 7.16. Students had a high tendency to provide answers to information-seeking questions (60%), ask to seek information (58%), inquire to start a dialogue (56%) and share information (56%). The occurrence of comments about others’ opinions (53%) was slightly higher than responses evaluating their own learning (51%). Students were inclined to give comments in group critique in class (44%) more often than after class (33%).

**Figure 7.16: Response rate in percentage of perceived online communication**

*Note. Percentages were rounded to the nearest whole number*
Slightly fewer students (49%) thought that blended discussions helped them to elaborate and express their thoughts more often. Students perceived more opportunities to elaborate thoughts or ideas in group critique in class (53%) than after class (49%). Nevertheless, fewer students interacted to provide guidance and suggestions (29%) to others. This finding suggests that blended discussions greatly increased the interaction functions of question-asking, information-sharing and comment, but did not significantly increase the interaction function of scaffolding.

7.2.7 Interaction and Participation

Six Likert scale items (see Appendix 26 – interaction and participation) were calculated by percentages to analyse student perceptions of the interaction and participation within and between groups. Student responses showed that the task-based blended discussions were learner-centred and seen as greatly promoting learner interaction. As illustrated in Figure 7.17, a majority of 65% of the respondents recognised more participation during the discussions and a large increase in students’ interaction with their group members (69%) or with students from other groups (56%), revealing that students interacted with their group members more than with members of other groups. Sher related that weekly discussions required frequent interaction with group members, and Dong reported that online group critique facilitated more interaction with students from other groups (Appendix 26 – interaction and participation). However, students’ interaction with teachers showed a lower response rate of 40%, reflecting that interaction in the blended discussions was learner-centred (58%). A majority of the respondents (56%) perceived
their interactions in this context as being meaningful.

**Figure 7.17: Response rate in percentage of perceived interaction and participation**

<table>
<thead>
<tr>
<th>participation &amp; interaction</th>
<th>65</th>
<th>40</th>
<th>69</th>
<th>56</th>
<th>58</th>
<th>56</th>
</tr>
</thead>
<tbody>
<tr>
<td>more participation</td>
<td>Positive</td>
<td>Neutral</td>
<td>Negative</td>
<td>Positive</td>
<td>Neutral</td>
<td>Negative</td>
</tr>
<tr>
<td>interaction-instructor</td>
<td>24</td>
<td>40</td>
<td>20</td>
<td>22</td>
<td>33</td>
<td>11</td>
</tr>
<tr>
<td>intra-group interaction</td>
<td>33</td>
<td>11</td>
<td>22</td>
<td>9</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>inter-group interaction</td>
<td>33</td>
<td>9</td>
<td>22</td>
<td>9</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>learner-centred</td>
<td>33</td>
<td>9</td>
<td>22</td>
<td>9</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>meaningful</td>
<td>11</td>
<td>22</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>11</td>
</tr>
</tbody>
</table>

Note. Percentages were rounded to the nearest whole number

### 7.2.8 Learning Effectiveness

Seven Likert scale items (Appendix 26 – learning effectiveness) were calculated by percentages to analyse student perceptions of their learning effectiveness and their evaluation of learning through online discussion. Overall, 40% of the respondents considered blended learning to be effective while 42% remained neutral (Figure 7.18). Approximately 18% held a negative view as indicated by Feng, who stated that “the effectiveness of learning dropped” (Appendix 26 – learning effectiveness). Notably, 43% of the respondents perceived out-of-class online group critique as effective, while a smaller percentage of 36% considered in-class group critique to be effective.
Out-of-class group critique provided students with time flexibility that increased effectiveness, while the limited time frame of in-class group critique reduced effectiveness. Approximately 34%~49% held neutral perspectives towards the effectiveness of online group critique.

**Figure 7.18: Response rate in percentage of perceived learning effectiveness**

![Chart showing response rate in percentage of perceived learning effectiveness](chart.png)

Note. Percentages were rounded to the nearest whole number.

Nearly half of the respondents (49%) recognised an increased awareness in evaluating their own learning through task-based blended discussions. A percentage of 36 of the respondents recognised that their English learning outcomes improved, while 51% remained neutral. A majority of the respondents (51%) agreed that the integration of online discussion into English courses as a mandatory activity was an appropriate
measure. However, only 33% suggested having more English courses use online discussion, while 51% remained neutral. Boyu expressed that this new teaching method was not common, but could be done much more often in Taiwan (Appendix 26 – learning effectiveness). These findings suggest that while students realise the significance of task-based online discussion in learning English, they may not yet be emotionally ready to adapt to it.

### 7.2.9 Influential Factors

Twelve Likert scale items (Appendix 26 – predetermined factors) were identified as belonging to broad categories to analyse student perceptions of the factors affecting learning in blended discussions. The categories identified were curriculum factors, environmental factors and affective factors (Figure 7.19). Items under each category were calculated by percentages to show their level of significance. The findings indicate that the majority of the respondents recognised curriculum factors as the most influential factors in blended discussions, followed by environmental factors and affective factors.
Students’ perceptions of blended discussion for EFL learning

Figure 7.19: Response rate in percentage of predetermined factors

Curriculum factors included seven items: prior knowledge (76%), appropriate guidance and instruction (73%), mandatory nature of online discussion (71%), types of discussion questions (67%), instructor’s participation and involvement (56%), and time length of tasks (53%). A majority of the respondents (76%) identified prior knowledge as the most influential factor in the curriculum category that affected discussions. A majority of 73% recognised that appropriate guidance and instruction was important because of the need for scaffolding in blended discussions. A large percentage of 71 agreed that the mandatory nature of online discussion, the third factor in this category, affected participation and contributions to the discussions.
A percentage of 67 agreed that types of questions were another influential item in curriculum factors because the difficulty of questions might affect discussion performance. For example, Zheng commented that he would have liked to become involved in the discussion because the questions discussed were related to daily life, but he was unable to express his thoughts clearly in English (Appendix 26 – predetermined factors). A percentage of 60 perceived the design of the discussion tasks as affecting discussions. A lower response rate of 56% records that the instructor’s involvements and participation affects the discussions. Approximately half (53%) agreed that the time length of tasks was the least influential factor in the curriculum category affecting learning.

The second category, environmental factors, included prior experiences (75%), learner-centred environment (62%), immediate feedback through face-to-face interaction (60%) and text-based online discussion (55%). A majority of 75% reported that prior experience was the highest rated factor in this category that influenced learning in blended discussions. Learner-centred environment accounted for 62% of the responses, reflecting the learner-centred nature of blended discussions. A percentage of 60 agreed that immediate feedback through face-to-face interaction affected discussions; 55% of the respondents held positive opinions about the text nature of discussion, indicating the medium as an influential factor. The third category, affective factors, referred to the participants’ familiarity with each other. A large percentage – 60% – of
the respondents recognised that this factor contributed to the emotional aspect of learning.

7.3 Summary

This chapter analysed the qualitative interview data and the quantitative questionnaire data to categorise students’ perceptions of blended discussions for EFL learning in a variety of themes for the purpose of answering Sub-research questions 4 and 5. The findings identified ten themes derived from the interview data (materials and topics, discussion tasks, thinking competency, language gains, modes of communication, interaction and participation, willingness to use English, the use of translation machines, teachers’ scaffolds and emotional conditions) and eight themes that arose from the questionnaire data (discussion tasks, text and content, thinking competency, language gains, modes of communication, interaction and participation, learning effectiveness, and influential factors). These themes will be further grouped to discuss and answer research questions in the next chapter, which will focus on discussing the findings reported in Chapters 5, 6 and 7 to address all five sub-research questions.
CHAPTER 8
DISCUSSION

This chapter incorporates a commentary of the findings presented in Chapters 5, 6 and 7 as they relate to providing answers to the research questions. The findings reported in Chapters 5 and 6 with regard to student-student and teacher-student interactions in each discussion task are used to answer Sub-research question 2. The findings reported in Chapters 5 and 6, relevant to the process of online meaning construction, inform the reply to Sub-research question 3. These answers to Sub-research questions 2 and 3 are then further elaborated to address Sub-research question 1.

The findings presented in Chapter 7 that record the students’ perceptions with regard to blended discussions for their language learning, which were based on the qualitative data derived from focus group interviews and the quantitative data emerging from the questionnaire, are discussed to answer Sub-research question 4. The data supplied by the student interviews will serve to supplement, cross-validate, complement and elucidate the questionnaire results. The findings reported in Chapters 5, 6 and 7 with regard to major factors that influence student learning are discussed to answer Sub-research question 5.

It is necessary to first consider the answers to the above-mentioned five sub-research questions in order to answer the main research question in the next chapter. A
connection will be established between the material presented and related studies that were reviewed for this thesis, as well as key theoretical constructs discussed in Chapter 3, as a means of theorising the findings.

8.1 Discussion to Address Sub-research Question 2

*Sub-RQ2: How do EFL students interact when performing three different discussion tasks?*

The nature of the three chosen discussion tasks differed in terms of goals (e.g. production of group argument, critiquing and defending), modes of communication (face-to-face or online), group patterns (intra-group or inter-group) and learning settings (inside or outside the classroom). Because of these differences, the three groups of students interacted in different ways, as shown in the data in Chapters 5 and 6, when engaged in the different tasks; however, when performing the same task, the students’ interactions were similar – for example, they adopted the same group strategies and established comparable functions of interaction when performing the same task. These similarities could be attributed to the homogeneous background of the students because the three groups of 14 participants showed no significant differences in age, or in cultural and academic background (see Section 5.1). This uniformity would be likely to influence the students’ interactions with each other and with teachers during discussions in an intra-cultural context, as illustrated by the following evidence.
8.1.1 Student Interaction in Small-Group-Discussion Task

The three groups of students worked collaboratively to formulate a group argument. Small group discussions, both face-to-face and online, were learner-directed because the students guided the discussions themselves without much teacher intervention. This outcome indicates that small group discussion with a clearly identified task goal helps to increase learner autonomy and facilitate self-directed learning. Both modes of communication – face-to-face and online – enable the production of dynamic interactions for different functions.

In the face-to-face context, the students communicated exclusively in L1. One possible reason is the convenience of using their native language, as cross-validated with the student interview findings reported in Section 7.1.5. Another possible reason is the students’ difficulty in speaking in L2 because of their low English speaking proficiency (see Section 7.2.1 – English learning background), which also relates to the face-saving issue evidenced in Chan’s (1999) and Evans’ studies (1999). This preference for speaking L1 concurs with the observations made by other researchers that Taiwanese students feel embarrassed to speak English publicly (Chiu, 2006; Liu, 2005). This embarrassment might explain why Taiwanese EFL students were highly dependent on using L1.

The students functioned as a group by adopting their own group strategies, which included a common group proposition, effective synthesis of opinions and distribution
of group work. As reflected in the data in Sections 5.2.1 and 7.1.5, the students used these strategies to produce a group argument more efficiently, considering the time restrictions imposed on achieving their task goal. This finding is in agreement with Oxford’s (1990) argument that learning strategies make language learning easier, faster, more self-directed and effective. The tangible engagement and direct contact of face-to-face interaction enables the students to establish group strategies more effectively; it is therefore reasonable to suggest that carrying out a face-to-face task with a set time limit for accomplishing a group goal will facilitate collaborative and self-directed learning that increases learner autonomy.

Within the group, the students also interacted dynamically to ask for and give information, suggestions and opinions in the face-to-face context (see Section 5.2.3 – face-to-face discussion). The primary function of their interactions was to ask for and give language-related information (38%), followed by topic-related information (15%) and personal information (2%). This implies that face-to-face interaction made it possible for students to quickly solve language problems that were beyond their current linguistic knowledge; this implication supports Swain & Lapkin’s (2000) argument that speaking to request and provide language-related information focuses the person’s attention on the form and the meaning of the L2, which involves the retrieval of semantic information. This argument resembles Swain’s (2004) observation that dialogic interaction enables students to identify and resolve linguistic problems in a collaborative exchange.
In addition to seeking and offering information, the students also communicated to request and provide suggestions or directions (32%) to resolve task-related problems. As cross-validated with the student interview data, this interaction function contributed to task efficiency (see Section 7.1.5), which corresponds with the assertion in Swain and Lapkin’s study (2000) that requesting and providing suggestions moves the task along for better management. All these findings further reflect the advantages of dynamic face-to-face interactions for information exchanges and negotiation of task procedures, and concurs with other researchers’ (Evans, 1999; McLoughlin, 2002; Yao, 1995) findings that modified interactions can be generated by undertaking tasks which are two-way, information-exchanging or problem-solving endeavours.

It was interesting to find that the students rarely asked for and gave opinions (13%) in the face-to-face context, except when synthesizing the opinions of all the members in order to formulate a group argument. This phenomenon may well be associated with the Taiwanese students’ characteristics related to CHC, in which it is not appropriate to publicly challenge a different view (Chan, 1999). The traditional English learning method in this culture emphasises mastery of linguistic knowledge in terms of grammar, vocabulary and sentence structures given by the teacher and the textbook (Jin & Cortazzi, 1999). The students are not encouraged to vocalize their ideas and they prefer to retain a listener-centred attitude (Evans, 1999), for which reason their face-to-face conversations in this EFL course setting do not facilitate exchanges of perspectives.
Surprisingly, the students neither requested nor provided technical information in eight discussions. This was not because technical problems did not occur; instead, it seems to have been a result of two particular strategies that the teachers adopted. The first strategy was to have students take part in an introductory session that trained them in the basic technical skills they would require for online discussion. This training session most likely increased students’ technical proficiency (Fitze, 2006). The second strategy consisted of teachers directing students to weekly online discussion threads and solving technical problems that arose at that time, prior to their taking part in the discussion. The absence of questions and input relating to technical information indicates that the two teacher strategies were highly successful in effectively minimising technical problems during discussions, as evidenced by the data recorded in Section 6.3.1 – Teacher scaffolds in face-to-face discussion.

In the online context, the students communicated almost exclusively in L2. This supports Kung’s (2004) view that online discussion facilitates the exclusive use of the target language in the EFL context. The most frequent interaction function identified was the discussion function (55.1%). The three groups of students interacted primarily to express their thoughts in response to a discussion question, providing supporting evidence that online discussion facilitates exchanges of perspectives and encourages individual reflection on the topic under discussion, an idea that was previously confirmed in other studies (Chang, 2006; Chen, 2005; Chen & Looi, 2007; Mohd Nor et
Notably, the students generally expressed their thoughts without much elaboration, in part because discussions inside the classroom provide a limited amount of time for deep thinking (Chen & Looi, 2007). These online responses to initial questions that do not include a reply have been criticised as being like monologues, less interactive communications with low cognitive presence (Henri, 1995). Nevertheless, online monologues are reflective and conducive to language learning because they increase the exposure to self-expression in the target language (Kim, 2011).

Making comments was the second most common interaction function identified in the discussions (27.1%). The students offered comments most often in reply to the “agree or disagree” type of question, suggesting that this type of question may have an effect on interaction functions. This corresponds with the conviction expressed in existing research that pre-established questions can be used as instructional tools to mediate the functions of scaffolded interactions for linguistic and cognitive development (McCormick & Donato, 2000; Wood, Bruner, & Ross, 1976). However, the students only made passing comments on each other’s opinions, which accords with Chang’s (2006) observation that students tend to post fewer responding messages to comment on others’ opinions; it is possible that they might find it difficult to make comments with regard to the opinions of other students.
Synthesising was another interaction function of note that occurred in small group discussions, although the frequency of this function was not high (10.7%). Weekly student moderators synthesised all the members’ opinions in the last posting in an effort to meet the task goal of producing a group argument. Synthesising is a means that facilitates the processes of acquiring information, co-constructing topic knowledge and compiling perspectives, as well as reconstructing texts. All these processes are necessary to achieve the task goal, which therefore appears to be directly related to the facilitation of this interaction function, and indicative of the reason for the low incidence of other interaction functions such as question, answer to question, and personal information-sharing. These findings confirm the conclusion reached by other researchers (Hammond & Gibbons, 2001; van Lier, 2002) that a task goal can serve as the macro-level of scaffolding to scaffold interaction.

The student groups displayed different levels of engagement in small group discussions, both face-to-face and online. These differences might be directly related to the characteristics of the learner or the group, as shown in the data in Section 5.1. In face-to-face situations, one group favoured exchanges of information and opinions while the other two groups preferred to request and offer suggestions. When communicating online, one group whose members had high English proficiency was more active in comment-making and question-raising than another group with members whose English proficiency was low; this second group preferred to express their thoughts rather than make comments or ask questions. A third group, whose members
Chapter 8 Discussion

had no prior experience in online learning, produced the fewest online responses.

Another observation worth mentioning was that while online discussions were strictly on-topic, off-task conversations occasionally occurred during face-to-face communication. As reflected in the data recorded in Table 5.2, one group of students occasionally chatted about irrelevant websites, about their physical condition and about other irrelevant topics. Relevant research has explained that such off-task discussion attempts function as “an emotion regulation mechanism” (Sabourin, Rowe, Mott, & Lester, 2011) that students use to reduce boredom or regulate other negative emotions.

8.1.2 Student Interaction in Online-Group-Critique Tasks

In online group critique in and after class, the students worked collaboratively to evaluate the other group’s arguments and to defend their own arguments while writing almost exclusively in L2. This phenomenon was also observed in small group online discussions. The students directed their own online discussions during group critique with more teacher support than they had in small group discussion (see Section 6.3.1 – Teacher scaffolds in online discussion). Comparatively, the teachers provided the most scaffolds in out-of-class group critique to encourage student participation, which supports Chang’s (2006) observation that EFL students are less motivated to participate after class. This finding is cross-referenced in the quantitative questionnaire data (see Section 7.2.2), and is not consistent with the existing empirical results showing that online discussion after class helps to boost learner motivation by providing more time
and flexibility (Arbaugh, 2000; Chen & Looi, 2007; Chou, 2002; Fitze, 2006; Mohd Nor, Hamat, & Embi, 2012; Ng & Cheung, 2007; Warschauer, 1996a). This implies that simultaneity is a crucial factor in maintaining students’ online participation in EFL learning.

Discussion, comment and question are the three main interaction functions that were exhibited by the students during online group critique performance. Other functions, such as scaffolding, social talk, synthesizing and reflection were less evident. The presence and absence of the particular functions indicates that a group critique task, aimed at evaluating the other group’s arguments and defending one’s own argument, facilitates the exchanging of perspectives, making comments, and raising questions. Notably, in-class group critique displayed more different interaction functions than an out-of-class language task, which might suggest that the students enjoy participating actively during class. Specifically, the functions of scaffolding and reflection appeared only during in-class group critique. This observation might lead the researcher to believe that more participation in class would facilitate a greater variety of scaffolded interaction functions. Interestingly, however, the level of student engagement again varied across the three groups, which might be a result of learner or group characteristics, as mentioned earlier in this chapter.

The two most frequently occurring interaction functions in online group critique in and after class were discussion and comment, which were likewise prevalent in small group
discussion. The data reveal that, regardless of task-related issues, online discussion facilitates manifestation of thoughts. The data also show that the types of discussion questions and the nature of the task goal may be directly related to the comment function of interaction. Significantly, the students tended to focus on elaborating their opinions in out-of-class group critique, which allowed them to have more time to think. In contrast, the students spent much more time expressing their thoughts than elaborating their ideas during in-class online discussion (both small group and group critique). These two manifestations indicate the possibility that out-of-class online discussion may facilitate profound thinking (Chen & Looi, 2007), implying that out-of-class learning creates an informal sort of instruction that provides sufficient time to support deeper thinking (Gerbic, 2006a).

Critiquing another group’s argument induces comment-making in online group critique. The students usually offered affirmative comments and agreement, rather than disagreeing and challenging others’ opinions, as similarly indicated in Chiu’s (2006) and Chang’s (2006) studies. This finding is consistent with the literature related to Chinese students’ communication behaviour geared toward avoidance of conflict and disagreements (Evans, 1999). Students’ online messages displayed substantive comments prevalent in online group critique in and after class, suggesting that Taiwanese EFL students are both capable of and comfortable with expressions of agreement that include their personal opinions.
Online group critique also encourages the question function of interaction. Student questions were most often posed to request clarifications, explanations or elaborations when critiquing others’ arguments indicating the development of self-directed learning tendencies, as noted by Mohd Nor et al. (2012). At variance with this propensity, the question function of interaction was rarely present in small group discussions; this difference between online group critique and small group discussions may indicate that the task goal of critiquing the arguments of others induces the students to ask questions, and these questions then prompt more specific reflection on the topic under discussion. As the literature suggests, question prompts can act as scaffolding assistance in checking comprehension, building an understanding of complex concepts, and achieving modification of interaction and negotiation of meaning (McCormick & Donato, 2000).

8.2 Discussion to Address Sub-research Question 3

**Sub-RQ3: How do EFL students co-construct meaning while engaged in online discussion?**

The findings with regard to the process of meaning construction that were analysed using students’ online discussion records indicate that the students were involved in co-constructing both topic-related and linguistic knowledge to make sense of what they were learning, as evident from the data in Sections 5.3, 6.1.3, 6.2.3. However, the process of online meaning construction highlights only active participation from the students in the co-construction of topic-related knowledge, but not in their participation
in co-construction of linguistic knowledge. One possible explanation for this phenomenon is that the nature of a discussion that is focused on manifestation of thoughts and elaborated opinions facilitates the construction of topic knowledge. Additionally, the students exhibited different flow patterns of meaning construction and the teachers offered different degrees of intervention in different discussion tasks, as illustrated in the following discussion.

### 8.2.1 Co-Construction of Topic Knowledge

Tasks can be used effectively to mediate learning and appropriate task support can successfully scaffold learning in the ZPD by means of social interaction, either face-to-face or in online learning environments (Ellis, 2003; McLoughlin, 2002). Two different types of tasks – small group discussion and group critique – afford different processes of forming meaning by socially constructing concept-based topic knowledge. In a small group discussion, the process of constructing topic knowledge centred on manifestation of thoughts to identify someone’s own propositions. The students contributed their opinions as part of the process of achieving the task goal of formulating a group argument. These opinion statements, which contained new information and concepts, contributed to the construction of topic knowledge. To a lesser extent, commenting on the opinions of other group members to show agreement also contributed to the discovery of new concepts.
The process of jointly constructing topic knowledge in an online group critique was the opposite of the pattern found in small group discussion. Input during online group critique consisted of question prompts and comments or scaffolds intended to spark elaborations of opinions. Students critiqued the other group’s argument to help that group improve their final argument. Comments and question prompts are seen as scaffolded functions (Roehler & Cantlon, 1997) performed to make sense of the meaning of topic-related knowledge and to facilitate social interaction, but they rarely inspired new concepts. Instead, new ideas and concepts that facilitated the collective construction of topic knowledge arose after the elaboration of opinions. This pattern indicates that certain elements of structural scaffolding, such as having a task goal, may account for the different flow patterns related to meaning construction in online discussion.

The extent of the teachers’ intervention differed during in-class and out-of-class discussions. In-class discussions were directed by the students, who joined in discussing ideas and thoughts with little intervention from the teachers, and the process of constructing topic knowledge was typically mediated by peers. However, in out-of-class group critique, student learning was guided by the teachers who solicited their views by way of questions and answers. Students did not take the initiative to contribute their opinions like they did in class. It appears that students favour the simultaneity of in-class discussion, as illustrated in An and Frick’s (2006) questionnaire results, which implicitly indicates that the process of collective construction of topic knowledge
promotes peer interaction and remains more learner-directed during in-class discussions.

Learning settings (inside or outside the classroom) are directly related to the amount of teacher or peer scaffolds that takes place in online discussions (Chen & Looi, 2007).

**8.2.2 Co-Construction of Linguistic Knowledge**

Students were afforded different opportunities for constructing meaning with L2 texts as a method of helping them to acquire linguistic knowledge in online discussions. Meaning construction of L2 texts could occur in two ways: either through revision of texts or grammatical corrections (local revision) or through revision of organization (global revision) (Yang, Yeh, & Wong, 2010). Grammatical corrections seldom occurred in online discussions, even though the teacher provided explicit scaffolds to pinpoint the language errors presented in the students’ online utterances, as noted by Liang (2010). This phenomenon might be explained by concluding that the nature of online discussion is more conducive to negotiation that focuses on meaning instead of form. This finding concurs with other researchers’ studies (Chen, 2005; Lee, 2001) which indicate that L2 students tend to focus on negotiation of meaning rather than on the forms of language output in online discussion.

Analysis of the data showed that meaning construction through revision of organization of a text occurred only in group critique. The students modified their final argument in order to meet the requirements of the task. They reconstructed the text of their final argument by adding new sentences to elaborate on new ideas after receiving feedback.
from the members of the other group. More revision of text organization was performed in out-of-class group critique than in in-class group critique, possibly because the students had more time to read, think, reflect and reconstruct the text after class time (Vrasidas & McIsaac, 1999). Revision of the group’s final argument involved a process of cooperatively constructing topic knowledge and, to a lesser extent, linguistic knowledge, reflecting van Lier’s (2004) assertion that L2 learning resides in the opportunities of meaning-making actions that foster the development of linguistic and cognitive knowledge.

English learning in a blended context is a social process of meaning construction mediated by teachers and peers. Teachers and students did not play fixed roles as experts or novices, respectively, as shown in Table 8.1. During this social process the roles played by the teachers extended both to expert and facilitator. Teachers corrected language errors, offered guidance and feedback and also elicited opinions to scaffold the discussions. This confirms prior research (Easton, 2003; Kochtanek & Hein, 2000) that pointed out that the role of the teacher shifts from that of authority figure or dispenser of knowledge to one of facilitator in online courses. The instructor in this research, however, still acted as an authority with regard to grammatical corrections which were beyond the students’ language capabilities, manifesting the essential need for the teacher to remain as an expert to provide L2 language support for the EFL students in this blended context.
Students also played more than one role in the process of meaning construction; they acted as experts, facilitators or novices. They offered opinions, gave complementary feedback, made comments, asked questions, clarified confusions, provided suggestions and refined arguments, all of which affirms the thinking of other researchers (Collis & Moonen, 2001; Yang, 2012) who found that, in an online learning setting, students play an active and participatory role rather than acting as passive recipients. This active participation shows that non-native English speaking students are able to assist each other in meaning construction, and that the roles of teachers and students become reshaped during this process when they are operating within a blended face-to-face and online learning context.

<table>
<thead>
<tr>
<th>Table 8.1 The roles of teachers and students in online discussion</th>
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<tbody>
<tr>
<td><strong>Small group</strong></td>
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<td>Teachers</td>
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<td>Students</td>
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8.3 Discussion to Address Sub-research Question 1

**Sub-RQ1: How do EFL students learn in blended face-to-face and online discussions?**

Significant common themes recurred in the discussions of Sub-research questions 2 and 3 (see Section 8.1 and 8.2) that will be further developed in this section to answer
Sub-research question 1. The avenues of student learning within the blended context used in this research encompass four aspects: mediation of L1 and L2; collaborative dialogue; co-construction of meaning; and teacher and peer scaffolds.

8.3.1 The Mediation of L1 and L2

Students communicated exclusively in L1 in face-to-face discussions, but they primarily used L2 in their online interactions, as explained in Section 8.1, manifesting the idea that face-to-face interaction mediates the use of L1 and online interaction mediates the use of L2. The discovery that different modes of interactions can mediate different uses of language is in line with Ellis’ articulation (2003) that modes of interaction can be viewed as a form of mediation. The occurrence of mediation in both L1 and L2 in blended face-to-face and online discussions reflects Vygotsky’s (1978) notion of mediated learning which posits that language refers to psychological signs used to manage the speaker’s mental activity.

Face-to-face discussions in small groups were primarily conducted in L1, and students depended heavily on the use of L1 for oral communication to improve task efficiency. This finding confirms the argument of other researchers (Brooks, Donato, & McGlone, 1997; Brooks & Donato, 1994; Swain & Lapkin, 2000) that the use of L1 in spoken form provides scaffolding assistance in implementing tasks and creates cooperation and understanding through interaction (Ganem-Gutierrez, 2009). The use of L1 serves as a mediational tool for increased effort and attention, which are viewed as higher mental
processes (Vygotsky, 1989). Investigations studying interaction and collaborative activity have revealed that the use of L1 facilitates cognitive and social functions that support L2 learning (Anton & DiCamilla, 1998; Lee, 2008; Swain & Lapkin, 2000; 1998). L1 was also occasionally used in online discussion to resolve communication breakdowns and increase meaning comprehension (Lee, 2001), thereby helping to keep the discussion flowing (Heins, Duensing, Stickler, & Batstone, 2008), as evidenced in the following response:

Week 15: For or against to ban US beef?

Researcher: Could you explain what you meant by “to close out of the box inspection”?

Hong: Our mean is “肉送到時開箱 (實際) 檢查” [We meant to open boxes for an immediate inspection on meat quality.]

Online discussion in small groups and in group critique was primarily conducted in L2. Writing text in online discussions manifests the students’ willingness to use the target language, as indicated by the data in Section 7.1.7. L2 use also served as a semiotic tool to mediate the students’ exchanges of perspectives, reflecting Landolf’s (2000) argument that technology can act as a powerful artefact to mediate L2 learning. However, students’ use of L2 was dominated by their communication in L1, possible as a result of their extreme dependency on translation machines (87%) that can produce incomprehensible English, or so-called “Taiwanese-English” or “Chinese English” (Chen, 2005; Shen, 2009).
English learning for Taiwanese students is a process of code switching between L1 and L2. Using L1 in this translation process may help students focus attention on the form and the meaning of L2. Understandably, the blended face-to-face and online discussions are favoured by those Taiwanese EFL students who are more inclined to vocal expressions in L1, but who also have the willingness to enhance their L2 learning by communicating in writing. The Vygotskian notion of language mediation is significantly embedded in this blended context for Taiwanese EFL students.

8.3.2 Collaborative Interaction

As previously addressed in Section 8.1, blended discussions also facilitated collaborative interaction, which can be conducted through both face-to-face and online communication, and it is not mediated by the technology used in this blended context. The technological medium only played a part in facilitating different functions of scaffolded interactions, such as the expression of thoughts, comments and question prompts. These scaffolded interactions occurred in this blended context referred to negotiated interactions (Chapelle, 2007). Dialogic interaction mediated by teachers and peers while students work together to achieve common task goals is the process with the most potential to facilitate a collaborative dialogue that promotes learner autonomy. Thus, blended discussions remain more learner-directed and reflective than the traditional form of English instruction, as illustrated by the discussion hereunder.
According to the data, dialogic face-to-face communication expedites collaborative interaction when students work collectively as a group to carry out a task more efficiently by adopting group strategies, and to resolve linguistic and task-related problems by exchanging information and suggestions. The immediate nature of communication in L1 simplifies the students’ efforts to engage in face-to-face collaborative interaction to help implement the task, to solve language problems, and to formulate ideas for subsequent online discussions. An examination of students’ interactional processes during face-to-face communication showed that students reverted to interpersonal interactions (Vygotsky, 1987) when the difficulty of the group task was increased. Although students frequently worked in groups of two, more students became involved in interpersonal discussions when the task became more difficult (see Section 5.2.3 – Face-to-face discussion), suggesting that the EFL students become autonomous learners and mutually assist each other in order to learn effectively within their ZPDs. Learning in the students’ ZPD thus enables them to solve problems that cannot be handled individually, but can be resolved by working with other members of the group (Vygotsky, 1987).

During online discussion, dialogic interaction engendered collaborative work when students critiqued the other group’s argument and defended their own by exchanging perspectives, making comments and probing questions. Online collaborative interaction encouraged the manifestation of thoughts and individual reflections on the topic and on others’ opinions in L2, as indicated by the data in Section 5.2.3 – Online participation.
and interaction. This finding is particularly significant in terms of the EFL students who rarely vocalize their opinions and ideas publicly, preferring to hold a listener-centred attitude in a face-to-face context. As articulated by Mikulecky (1998), online collaborative communication appears to foster more thoughtful reflection and profound thinking than does face-to-face. Related to this concept is the speculation that synchronicity-based or real-time dialogic interaction opens the door to brainstorming and reflection in online collaborative communication inside the classroom because student participation increases, whereas asynchronous interactions result in more extensive deeper thinking in online collaborative communication outside the classroom because the students have more time to think.

Collaborative interaction in a blended context has the potential to promote learner autonomy, improve task efficiency, resolve linguistic problems and facilitate brainstorming, reflection and profound thinking. Based on this research, collaborative interaction can be successfully established under two main conditions. First, a dialogically based task is chosen for problem-solving or exchanges of opinions. Second, the task has an explicit group goal which creates the ZPD wherein students can only perform the task with each other’s assistance (van Lier, 1996). Students become contributing members by pooling their knowledge and resources for communal decision making and problem solving, in accordance with Swain’s (2004) view that collaborative communication is facilitated by social interaction and can mediate problem-solving and knowledge building processes; this supports the argument that collaborative interaction
is both a cognitive tool and a social tool that mediates language learning. Hence, the sociocultural perspective of task mediation and dialogic interaction embedded in this blended context is of vital importance with regard to facilitating collaborative interaction in the context of EFL learning.

8.3.3 Co-construction of Meaning

In blended discussions, a combination of face-to-face and online discussions, the EFL students learned through the processes of jointly constructing both concept-based meaning and form-focused meaning, as shown in the data chapters from Sections 5.2.3, 5.3, 6.1.3 and 6.2.3 and in the discussion chapter from Sections 8.1 and 8.2. It was significant to discover that students were more active in co-constructing concept-based meaning related to topic knowledge during online discussions; joint construction of form-focused meaning mainly occurred in face-to-face discussions.

Co-construction of concept-based meaning primarily occurred in online discussions when students were engaged in manifestation of thoughts and elaboration of opinions. “Meaning” is defined as the translation of abstract thoughts or concepts into concrete words. Students communicated in an effort to make sense of concept-based meanings in the process of constructing topic knowledge (see Sections 6.1.3 and 6.2.3). This communication implies that text-based online discussions provide fuller explanations that successfully convey meaning by discussing ideas and experiences, and applying concepts.
During face-to-face discussions, students jointly constructed concept-based meaning to a lesser extent by requesting and providing topic-related information (15%), as shown in the data from Section 5.2.3. Verbal face-to-face communication enables students to help each other resolve simple topic-related questions by jointly constructing topic knowledge from the assigned reading content or online postings (see Section 7.1.1). These findings establish that co-construction of topic knowledge helps enhance comprehension of the concept-based meaning in blended discussions. This position then agrees with the testimony of other researchers (Pena-Shaff & Nicholls, 2004) declaring that meaning arises as individuals create interpretations to discuss their ideas, experiences and perceptions with their peers.

Blended discussions additionally facilitated joint construction of meaning with regard to language form. According to the data, students performed more actively in the co-construction of form-focused meaning during face-to-face discussions (Section 5.2.3). They negotiated language form by requesting and providing language-related information (38%). Verbal face-to-face discussions enable students to instantly answer simple English language questions by discussing the meaning of English words, grammar and structures in L1. Notably, students co-constructed form-focused meaning to a lesser extent when communicating online. Collective construction of meaning in online discussions mainly occurred when the group was engaged in the revision of organization by adding new ideas and concepts to their final argument (Sections 6.1.3
and 6.2.3).

The nature of text-based online discussions and the task goal of modifying the group argument are more conducive to the revision of organization than to the revision of specific form. However, it can be argued that the revision of organization involves form-focused meaning construction within the process of comprehension of concept-based meaning. It can be concluded that blended discussions, a form of communicative task, provided the students with the opportunity for co-constructing both meaning and form. This argument is in accord with the sociocultural perspective that L2 language is a meaning-making process involved in a representation of semiotic meaning and the meaning of concepts (van Lier, 2004; Vygotsky, 1978).

In this respect, language learning can be viewed as a process of constructing meaning. Meaning construction is not a passive process; instead, it is a social and dialogical process that requires active participation and interaction for articulating, reflecting and negotiating (Pena-Shaff & Nicholls, 2004). In blended discussions used in this research, meaning is socially constructed through language form and concepts in spoken and written conversations for communication. L2 learning moves beyond the memorization of language form to also establish a link between L2 and mental functions as a means of conveying meaning for communication through social interaction (Vygotsky, 1978). The joint effort of mutual meaning construction accesses the communicators’ ZPD, thereby leading to an assisted performance, which comprises the significance of using
both face-to-face and online interactions as embedded in the blended context adopted in this research to facilitate co-construction of meaning and to promote learner autonomy (Lee, 1998; Murphey, 2001).

8.3.4 Teacher and Peer Scaffolds

The EFL students learned, with the assistance of teacher and peer scaffolds, to complete collaborative discussion tasks as discussed in Section 8.1. According to the data, students were better able to scaffold each other during discussions inside the classroom because of the synchronicity of these interactions. Students relied more on teacher scaffolds when discussions were conducted outside the classroom. Both teachers and peers provided various scaffolds and played various roles in different contexts of learning, as illustrated in the following discussion.

In terms of teacher scaffolds, the teachers (instructor and researcher) played similar roles in both face-to-face and online contexts, functioning as authority figures/experts, moderators and facilitators (see Section 6.3.1 and Section 8.2), rather than performing one fixed role, as is the case in the traditional face-to-face learning setting (see Section 6.3.2). There was less teacher intervention during blended discussions and more collaborative dialogue, resulting in learner-directed communication between the students. The teachers intervened in the student discussions only when students requested their assistance, thus reshaping the teacher’s role to one of providing varying degrees of scaffolds according to the needs of the students (see Table 8.2).
confirmed by other researchers (McLoughlin, 2002), the nature of the scaffolding (verbal vs. text-based, or in-class vs. out of class) provided by the teacher differs in degree and determines the role played by the teacher, which also accounts for the different levels of teacher scaffolds that occur in the three discussion tasks.

The participation of the students was active and the roles they played also varied; students acted as experts, facilitators and novices to mutually scaffold each other in completing the tasks, providing different learning scaffolds in different contexts, as shown in Table 8.2. In face-to-face collaborative dialogues, students assisted each other to implement the task and resolve language problems, as discussed in Section 8.3.2, possibly direct face-to-face contact enables students to offer the effective task and language support in L1 that is favoured by the EFL students. In online collaborative dialogue, students were able to mutually scaffold each other to a greater extent in online discussions inside the classroom (Sections 6.3.1 and 8.3.2). Although students scaffolded each other principally in constructing concept-based topic knowledge, as previously discussed in Section 8.2, they did not effectively assist each other in correcting grammar; this suggests that teacher support with regard to language correction is an essential factor to include in teaching EFL because of the learners’ limited linguistic ability.

Blended discussions shifted students’ role from one of passive recipients to one requiring more active participation (Collis & Moonen, 2001). Obtaining available
assistance from more capable peers and/or from students with equal or less proficiency can improve the students’ learning within the ZPD (van Lier, 1996); L2 learning within ZPD occurs not only from the expert-novice dialogic interactions, but also from peer-peer interactions, as non-native English speaking students mutually assist each other during collaborative tasks within their ZPDs (Varonis & Gass, 1985). This indicates that the sociocultural perspective of social mediation and scaffolding by teacher and peers is an essential factor in facilitating interactive EFL learning.

Table 8.2: The roles of teachers and students in blended discussions

<table>
<thead>
<tr>
<th></th>
<th>Face-to-face context</th>
<th>Online context</th>
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<tbody>
<tr>
<td>Teachers</td>
<td>Resolve technical problems</td>
<td>Correct language errors</td>
</tr>
<tr>
<td></td>
<td>Correct language errors</td>
<td>Moderate discussions</td>
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<tr>
<td></td>
<td>Provide guidelines</td>
<td>Offer feedback</td>
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<td></td>
<td>Encourage involvements</td>
<td>Elicit opinions</td>
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<td></td>
<td>Offer feedback</td>
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<tr>
<td>Students</td>
<td>Distribute group work</td>
<td>Offer opinions</td>
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<tr>
<td></td>
<td>Decide group proposition</td>
<td>Offer comments</td>
</tr>
<tr>
<td></td>
<td>Resolve language problems</td>
<td>Ask questions</td>
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<td></td>
<td>Resolve task problems</td>
<td>Offer clarifications</td>
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<td></td>
<td>Share personal information</td>
<td>Offer feedback</td>
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<td></td>
<td>Provide suggestions</td>
<td>Provide suggestions</td>
</tr>
<tr>
<td></td>
<td>Synthesize opinions</td>
<td>Modify argument</td>
</tr>
</tbody>
</table>

8.4 Discussion to Address Sub-Research Question 4

Sub-RQ4: How do EFL students perceive their learning gains related to participating in blended discussions?

The quantitative findings emerging from the questionnaire data consolidate the qualitative findings that arose from the interview data. These two sets of data helped to present a better understanding of the students’ perceptions with regard to the learning
that they gained as a result of face-to-face and online blended discussions. Students expressed positive perceptions of the blended discussions and recognised that the process had contributed to their cognitive, language, interactional and affective gains.

8.4.1 Cognitive Gains

In the scope of this study, the term “cognitive gains” refers to the mental processes of the students when thinking to achieve knowledge and comprehension. Students perceived and reported major gains, as follows: greater comprehension of the topic knowledge; increased construction of the content knowledge; and enhanced thinking competency with regard to individual reflection, brainstorming, cognitive and critical thinking.

According to the students, text-based online discussions increased their construction of the content knowledge (65%) and improved their comprehension of the topic knowledge (53%) as shown in the data in Section 7.2.3. These results cross-validate with the student interview statements reported in Section 7.1.1, and also corresponds with Chen’s (2005) questionnaire and interview data from Taiwanese students, showing that online discussions enhanced their learning of content. These realizations support the argument that knowledge collectively built through discussions within or across groups, and interpersonal interactions advance the construction of knowledge and foster individual mental processes of thinking. This idea is in alignment with the sociocultural perspective that language learning performs both cognitive and social functions,
particularly when the learners engage in collaborative activities with others (Swain, 2004; Vygotsky, 1978).

In terms of thinking competency, students perceived that their individual reflections and brainstorming were furthered through interaction in blended discussions. The questionnaire data (see Section 7.2.4) showed that the highest percentage of individual reflections on topic (64%) and on others’ opinions (56%) occurred during in-class group critique, followed by small group discussion. One possible reason for these results is that more students (two groups) participated in group critique inside the classroom, where they felt supported with embedded scaffolding such as prompts from each other. This explanation implies that increased participation yields more opportunities for reflection. This effect of increased participation may also explain why the percentage of student engagement in in-class group critique (75%) was higher than it was in small group discussion (62%). As Black (2005) pointed out, online discussion creates a text of talk that may facilitate thoughtful reflection on the text.

However, the data also reported more students engaged in brainstorming in small group discussions (64%), than during in-class group critique (56%), possibly because they were allowed to speak in L1 with their group members, with whom they were better acquainted. It seems likely that brainstorming performance can be influenced by language, manner of interaction and familiarity among group members, which also relates to the finding that out-of-class online discussions accounted for the least amount
of participation in individual reflection and brainstorming. In-class discussions create the ZPD that facilitates brainstorming among the EFL students, which supports the Voygotskian (1978) theory that mental processes operate while interacting with others in the proximal learning environment.

Students also provided feedback relating to their cognitive and critical thinking in online discussions, reporting that answering discussion questions stimulated their individual cognitive thinking while commenting on others’ opinions facilitated their critical thinking (Section 7.1.3); this feedback confirms that blended discussions benefit both types of thinking. Online group critique was particularly conducive to stimulating critical thinking because it required students to communicate their evaluation of the other group’s argument and to produce a defence of their own argument. The students who participated in out-of-class online discussions reported that they spent more time on thoughtful reflection to achieve more profound thinking (Section 7.1.2), which validates the conclusion that asynchronous text-based communication is beneficial for developing critical thinking, as argued by other researchers (Chang, 2006; Garrison et al., 2001; Wang, 2009). This argument is congruent with the text-mediational interpretation of Vygotsky (1978), which views texts as thinking devices (Dysthe, 2002) to mediate L2 learning.
8.4.2 Language Gains

The language gains identified in this research refer to those major language areas and skills (e.g. vocabulary, grammar, reading and writing) that students were able to develop as a result of engaging in blended discussions. Students reported that their participation in blended discussions was beneficial to their language development (see Sections 7.1.4 and 7.2.5); greatly improved their language knowledge (67%); and increased their awareness of language use (60%). Students’ English language competence was enhanced primarily in the two macro skills of reading and writing (text comprehension, writing fluency and lexical density).

Students perceived their text comprehension (65%) as improved through blended discussion, as was also found in Yang’s study (2012). In addition, their writing competence (56%) also improved after rapid written exchanges during online discussion (see Sections 7.1.4 and 7.2.5). Students’ electronic records showed that they made an effort to understand the posted messages, as they frequently read and responded to the posts made by members of their own group and other groups. Students wrote repeatedly online to express their thoughts, ask questions, clarify ideas, offer comments, and share their experiences, as evidenced in the data from Section 7.2.6. English learning through online discussion develops principally from reading and composing text in English, as reflected in the existing research (Sotillo, 2000; Warschauer, 2001) showing that text-based online discussion improves the reading and writing abilities of the students by involving them in rapid written interactions.
The reading and writing process especially improved students’ understanding of English vocabulary (65%) and grammar (42%), possibly because they produced a greater range of vocabulary for online exchanges resulting in increased lexical density (53%), as was also found in other studies (Fitze, 2006; Warschauer, 1996a). This finding also confirms the results of other researchers’ (Chen, 2005; Wang & Wang, 2010) investigations into the Taiwanese university students’ perceptions that online discussion, synchronous or asynchronous CMC in class or out of class, expands vocabulary and grammatical knowledge.

This improvement, however, was not accompanied by an increase in retention (38%). This phenomenon may be related to the students’ habitual use of translation machines, which typically results in short-term retention; as Ma commented, the use of web translation tools resulted in short-term retention as compared to using handwriting (Section 7.2.5). This assumption contrasts with the findings in other studies that support the use of e-translation tools to improve retention of vocabulary with regard to word’s meaning and enhance reading comprehension (Abraham, 2008; Wang, 2012). Whether rapid English practices in online discussion increase retention, as compared to handwriting, has not been determined, and answering this question remains obviously beyond the scope of this thesis.
The data also showed that the writing process improved students’ English sentence structures (49%) as this endeavour afforded students more opportunities to paraphrase and structure English sentences, thereby improving their writing fluency (Section 7.1.4). Students were observed actively engaging in discussion, which allowed them to use the words they already knew and to write to make sense to their class members. The writing process also helped to create a flow of thought exchanges in the target language. This finding corresponds to Chen’s (2005) study that written communication skills improved in terms of clarity, organization, logical thinking, style, and fluency from learners’ engagement in online discussion. Writing can thus be viewed as a process that focuses on meaning (discussion to generate ideas) and form (language to focus on words and structures) to facilitate L2 learning (Liang, 2010; Storch, 2005).

Students in this research project did not display a greater level of sophistication regarding grammatical accuracy and syntactical complexity (24%) as a result of their participation. Other researchers (Chen, 2005; Kung, 2004) also found that Taiwanese EFL students frequently made English grammatical errors, mistakes in usage and produced sentence fragments; their written communication focused more on the meaning than on the form of language output in online discussions. However, different findings were generated by other ESL studies, showing an improvement in written accuracy and sentence complexity (Fitze, 2006; Sotillo, 2000; Warschauer, 1996a). This discrepancy may be attributed to diverse cultural contexts or characteristics among the participants, or to differences in their English writing proficiency.
8.4.3 Interactional Gains

The term “interactional gains” refers to the benefits provided by interpersonal interactions for communication in blended discussions. Interpersonal interactions, according to the sociocultural perspective, foster cognitive and language development, as discussed in the previous two sections 8.4.1 – cognitive gains, and 8.4.2 – language gains. This section focuses on social functions for interactional benefits. When commenting on the aspects of increased participation, learner interaction and dynamic functions of interaction, students perceived their interactions in this blended context to be meaningful (56%), as shown in the data from Section 7.2.7.

Students recognised an increase of participation (65%) and learner interaction (58%) in blended discussions, possibly related to the fact that they knew their contributions would be assessed. As cross-validated with the interview data, students recognised marks as the motive behind their online contributions (see Section 7.1.2). Another possible reason for increased participation and interaction is that completion of the discussion tasks required assistance from their group members and from other groups; it was difficult for students to achieve the task goals alone. For example, the requirement of formulating a group argument in collaboration with all members in small group discussion increased learner interactions within the group (69%).
Similarly, the requirement to modify this argument after critiquing the other group’s argument and defending their own, which necessitated interacting with members of other groups, increased learner interaction between groups (56%). The task goal creates the ZPD in which students can only achieve the desired result by working with the assistance of other group members (van Lier, 1996). The ZPD is co-constructed through social interaction when students engage in the interactive tasks. This agrees with the assertion expressed by Lantolf (2004) and Wells (1999) that the ZPD is an attribute of the tasks rather than an individual attribute possessed by each learner.

Data showed that interactive interpersonal communication facilitated the dynamic functions of scaffolded interaction in both face-to-face and online settings. Face-to-face interaction in small group discussion was communication-oriented for the purpose of seeking guidance and information (67%). Students were scaffolded and guided toward following a clearer direction of discussion (67%) and achieving a better comprehension of the online English text (67%). The students interviewed also reported that immediate face-to-face conversations exclusively in L1 facilitated exchanges of language-related information and promoted task efficiency (Section 7.1.5). These findings were cross-validated by the analysis of face-to-face interaction shown in Section 5.2.3; they confirm the results of other research studies (Heins, et al., 2008) that show that face-to-face interaction promotes general talk about how to tackle tasks as well as sustaining social functions for meaningful interpersonal exchanges, and thus cannot be replaced as part of the process of learning a language for the EFL students.
Online interaction in blended discussions was perceived as being opinion-oriented (71%). While communicating online, in order of frequency from high to low, students typically provided answers, asked questions, shared information, gave comments, and expressed thoughts or elaborated opinions. Conversely, the analysis of online discussion logs indicated that students mainly expressed thoughts, elaborated opinions, gave comments and asked questions, which corresponds with findings in previous studies showing that students primarily express ideas online (Chen, 2005; Warschauer, 1996a). This tendency might be explained from the fact that online communication does not include a concern with face saving and social norms to avoid disagreements (Shin, 2006), which is an appropriate explanation relative to Taiwanese EFL students who are sensitive to the issue of face-saving.

However, the findings that resulted from analysing students’ perceptions were inconsistent with those from the analysis of online interaction functions discussed in Chapter 5 of this thesis (see Section 5.2.3, 6.1.2 and 6.2.2). This inconsistency suggests that students may not completely understand the purposes of interacting online owing to their lack of prior experience with online discussion. Other functions of interaction – such as commenting, questioning and synthesising – were also prevalent, indicating that dynamic learner interaction is facilitated by the integrated use of a range of interactive online discussion tasks.
Students’ perceptions indicated that interpersonal interaction in blended discussions was learner-centred. It is a well-documented fact in educational research that online discussion enables the development of a learner-centred environment (Chen, 2005; Irvine, 2000; Liu, 2011; Mohd Nor et al., 2012; Wang & Wang, 2010), which can explain the lower percentage (40%) of teacher-student interaction reported. However, active interaction can hardly occur in out-of-class online discussion in the EFL context (Chen, 2005) because of the asynchronous nature of the task. The present research revealed that in-class online discussion via asynchronous CMC resulted in more interaction in the EFL context, which resembles the observations of previous studies showing that synchronous online discussion produces frequent interactions because of its immediate connections (Shin, 2006; Warschauer, 1996a; Yang, 2006b). The findings discussed herein all contribute new insights related to the use of blended online discussions to create dynamic interactions in the EFL context.

### 8.4.4 Affective Gains

Affective gains refer to positive emotions or attitudes experienced by the students as a result of engaging in blended discussions. In this research, affective gains were reflected in the students’ reports of their satisfaction and their willingness to learn in blended discussions (see Sections 7.1.10 and 7.2.2).

Close to half of the students reported feeling satisfied (47%) with the blended discussions, possibly because they were less bored and learned more than in the
traditional face-to-face English class. For example, Xuan reported not dozing off or skipping the class; Tian reported becoming more concentrated on the tasks during blended discussions. Students expressed the most satisfaction from small group discussion (51%); for instance, Bin and Yuzhi described discussion with group members as meaningful and more interesting. Tian mentioned increased self-confidence and a sense of belonging while discussing within her group. Yun described small group discussion as cooperative and collaborative. These reports correspond with the observations of other researchers that students preferred small group online discussion (Chang, 2006; Ng & Cheung, 2007; Yildiz & Bichelmeyer, 2003). The aforementioned findings support the widely recognised affective gains in the literature (An & Frick, 2006; Ng & Cheung, 2007; Wang & Wang, 2010; Yang, 2006b), thus informing EFL instructors a high level of suitability (51%) of integrating online discussion into English courses.

Another salient affective gain that students perceived was an increased willingness to use English in online discussions, as reported in their qualitative interview data (Section 7.1.7). This reported willingness was first reflected in the students’ choice of practicing English by using a translation machine, and not annotating the English sentences in L1, and then reflected a second time in their willingness to risk writing in English when communicating in or after class. For example, Tian and Jing related that they gained enough confidence to practise English in online discussions, and even to chat in writing with native speakers on Facebook after class. Students’ willingness to use English
corresponds with their active participation in online discussions (Section 5.2.3, 6.1.1 and 6.2.1), which provided them ample opportunities for innovative English writing practice and enhanced their motivation (40%) to take part in online English discussion. This outcome reflects Chen’s argument that EFL undergraduates are more willing to participate in online discussions when others’ responses to the topic under discussion are active.

8.5 Discussion to Address Sub-Research Question 5

Sub-RQ5: What are the key factors influencing learning in blended discussions?

Based on the findings reported in Chapters 5, 6 and 7, four key factors were identified that influence student learning within the context of this research: curriculum factors, environmental factors, affective factors and language factors, as shown in Table 8.3. These major factors do not stand alone; they work together to influence participation, interaction, motivation, cognitive thinking, emotional conditions and language use in the overall context of learning.

8.5.1 Curriculum Factors

Curriculum factors involve key aspects of the curriculum design that affect learning in blended discussions. Students perceived teacher scaffolds, assessments and task issues as being the three crucial factors in this category.
Teacher scaffolds were identified as the dominant factor associated with the curriculum design that impact learning in this blended context. The majority of students (73%) reported that they needed appropriate guidance and instruction to assist them in accomplishing the tasks, as recorded in the data from Section 7.2.9. Guided scaffolds from the teachers included clarification of the course content; provision of guidelines; moderating discussions; maintaining direction; language error corrections; etc. (Section 6.3.1 and 7.1.9). This spectrum of assistance is in agreement with many dimensions of teacher scaffolds identified in the relevant literature (Beed, Hawkins, & Roller, 1991; Wood, et al., 1976), pointing out that teacher support is essential not only in the traditional face-to-face context, but also in this blended context, particularly for Taiwanese students and the students from CHC who tend to be teacher-dependent (Watkins & Biggs, 2001).

Teacher support is regarded as interactional scaffolding that focuses on ongoing exchanges between the teacher and the students to improve comprehension by mutual construction of knowledge (Hammond & Gibbons, 2001). This support is one main resource in the ZPD (van Lier, 2002) that promotes students’ extrinsic motivation and teacher-student interaction. Teacher scaffolds in this blended context were observed to be flexible and based on students’ needs. As students became increasingly able to manage discussions, the teacher’s assistance was gradually withdrawn. This development was noted in the students’ electronic records, which related that teacher intervention tended to gradually decrease in the later discussions; it is also reflected in
lower expectations of teacher’s involvement and participation (56%) as compared to other factors in the end-of-semester questionnaire (Section 7.2.9). According to the sociocultural perspective, such flexible teacher support is highly valued as a “contingency” that promotes the quality of scaffolding (van Lier, 2002), which is particularly essential for Taiwanese students situated in large class settings.

Another significant curriculum factor was assessments, in terms of posting requirements and grades. Online discussion tasks were a mandatory integral part of the course. Students were required to contribute a minimum of two posts. Their contributions within the group and their individual messages in each online discussion were marked, and a high percentage (71%) of the students rated the mandatory aspect as an influential concern. The quantitative assessment motivated student participation (Section 5.2.3 – Online participation and interaction), and especially encouraged students who were shy to vocalise during discussions; this observation is cross-validated by the data provided by the student interviews in Section 7.1.2.

Assessment is regarded as a form of structural scaffolding that increases the students’ extrinsic motivation and results in growing participation and interaction. This phenomenon of assessment as a crucial element for successful learning in online settings is widely echoed throughout the relevant literature (Gerbic, 2006a, 2006b; O’Reilly & Newton, 2002), especially with regard to asynchronous online learning. These effects of assessment are particularly true in the Taiwanese culture influenced by
the CHC, wherein students are extremely concerned with assessments of their performance and their learning achievements.

Task issues were identified as major factors related to the curriculum design. An array of related aspects such as task type, task goal, length of time allotted and task sequence, as well as discussion topics and questions, were determined to collectively contribute to task issues. These aspects were seen as vital structural scaffolding for interaction and performance. According to the categories of task types found in L2 research, discussion is defined as an opinion exchange type of task (Nunan, 1989; Pica, Kanagy, & Falodun, 1993) which focuses on genuine discussions. This opinions-exchange task allows students to express different viewpoints with no right or wrong answers and to hold various positions.

A discussion task stimulates dialogue between participants and reduces the reliance on the teacher or the influence of the teacher’s statements on communication (Gerbic, 2006b). These characteristics of the discussion task account for the high percentage of student participation and peer interaction, and the low percentage of student interaction with the teachers in blended discussions, as depicted in the data from Section 7.2.7. The interactive nature of the task helps to facilitate a process that permits students to move away from the more traditional teacher-centred mode of learning to a more engaged type of learning in groups. This kind of learning is highly valued in the scheme of Vygotskian sociocultural constructs, particularly with regard to the notion of interaction.
Chapter 8 Discussion

and ZPD discussed in Chapter 3 of this thesis.

A task goal was considered to directly affect interaction, cognitive development and construction of meaning. The two main task goals were to formulate a group argument in small group discussion; and to critique the other group’s argument and defend one’s own group argument in group critiques. Different task goals facilitated different functions of scaffolded interaction, as previously addressed to answer Sub-research question 2. In addition, different task goals resulted in different cognitive developments (Sections 7.1.3 and 7.2.4) and different flow patterns of meaning construction (Section 5.3, 6.1.3 and 6.2.3). The data indicates that a task goal with a focus on meaning rather than on form provided opportunities for L2 exposure; this finding is in agreement with Robinson’s (2011) argument that task characteristics affect interaction, cognitive operations and negotiation of meaning in facilitating L2 learning from classroom settings to computer contexts.

Students identified the amount of time allotted for discussions as another influential factor. Blended discussions included in-class face-to-face and online discussions, and out-of-class online discussions. As the data shows in Section 7.1.2, a restricted amount of time in which to complete in-class discussions made students feel pressured, and reduced individual reflection and interactions. Out-of-class discussion allowed students to take the time they needed, reduced the pressure and deepened their thinking, but decreased interactions. These results are consistent with the information in the literature
relating to the effect that time exerts on the interaction and cognitive presence of students in online discussions (Andresen, 2009; Chang, 2006; Chen, 2005; Chen & Looi, 2007; Gerbic, 2006a; Meyer, 2003). Other factors, such as the difficulty of the questions, teacher scaffolds and students’ English writing competence, would potentially affect the time required for discussions.

Another salient factor related to tasks was their sequence. The sequence beginning with in-class small group discussion followed by in-class or out-of-class online group critique determined the need to first have a group of students collaboratively formulate a group argument, and then modify the argument after critiquing another and defending their own. As the data shows in Section 7.1.2, this sequence added variety and made discussion less boring. Most students agreed with the synergistic relationship between these three tasks, which provided students different opportunities for learning (Chapters 5 and 6); nearly half of the students expressed positive attitudes towards this sequence (Section 7.2.2). These findings reflect Robinson’s (2011) position that the sequences of tasks – performing tasks in different combinations and across different timescales – affect the opportunities for learning.

The selection of discussion topics was another significant task-related factor identified by the students. Most topics under discussion were selected by groups of students, who later reported that topics related to their expertise, life experience or personal interests motivated them to think and discuss (Section 7.1.1). This corresponds with the findings...
of other researchers (Chang, 2006) that the topics relating to students’ background knowledge and interests increase their desire to participate. Assigned reading articles that relate to the discussion topics are regarded as mediational texts in that they provide focal points for analysing an issue and for critical analysis of viewpoints (Hammond & Gibbons, 2005). Materials that increase students’ prior knowledge (76%) were rated as the dominant choice for carrying on a discussion (Section 7.2.9). As indicated by Chang’s report (2006), students’ prior knowledge about a specific issue affects their contributions while interacting with other students during topic discussions.

The last influential factor identified as relating to tasks was discussion questions, which received a percentage at 67% (Section 7.2.9). Three types of open-ended questions were designed in accordance with the topics and issues covered in the course. Agree/disagree questions required students to freely discuss whether they agreed or disagreed with controversial issues. Students were encouraged to offer their personal opinions. Problem-solving questions required students to provide solutions to resolve problems. Students were encouraged to elaborate their opinions by relating their own experiences or providing factual information. Students were required to describe their position on an issue by including pros and cons when they were asked to debate on the question. These three questions types enable students to expand their ideas, and co-construct shared perspectives and meaning (Kim, 2011) in blended discussions.

According to the students’ electronic records, fewer responses occurred in answer to
debate questions, possibly because debate involves higher level thinking, which Taiwanese students are particularly weak at exercising. As Qaoyu mentioned, “I feel compressed when being asked to list out pros and cons in restricted time frame” (Section 7.2.9), implying that different types of question have different levels of difficulty and would affect online participation and interaction as well as engagement (Kim, 2011). This finding is cross-validated by the data provided by the student interviews in Section 7.1.2 and contributes to an understanding of the influence of question types related to the amount of time that has not yet been fully examined.

**8.5.2 Environmental Factors**

Environmental factors identified in this research represent key concerns about the creation of a social context for communication in blended discussions. The factors that contribute to this aspect are the medium of communication, technological support, settings, learner-centred environments and prior experience.

Blended discussions afford face-to-face and online modes of communication that create the two different learning contexts used in this research. Affordances are defined as opportunities or meaningful ways of enabling actions and interactions in the accessible environment (van Lier, 2004). As documented in the relevant literature (van Lier, 2004; Wuensch et al., 2008), face-to-face communication and online communication provide different affordances for different uses of the medium to scaffold language learning.
Students determined that the medium of communication was another factor that influenced learning in a blended context (Sections 7.1.5 and 7.2.6). Verbal conversations as a medium of face-to-face communication facilitated the use of L1 for instant exchanges of information and negotiations of task procedures (Section 5.2.2). A large number of students (60%) listed their need for face-to-face interaction (60%) as an influential concern, indicating that verbal conversations in L1 are necessary for Taiwanese EFL students who still require immediate feedback provided in person. Text-based CMC, a medium of online communication, facilitated the use of L2 for expressing thoughts, comments and question prompts (Sections 6.1.2 and 6.2.2). This text-based online medium led to deeper reflection and was rated by the students (55%) as another influential concern. These findings indicate that different media of communication establish different social contexts, which are conducive to different types of language use (L1 or L2) that facilitate different functions of scaffolded interactions. This phenomenon is in accord with the sociocultural perspective that learning should provide contexts for social interaction that facilitate language development. Opportunities for L2 learning, as van Lier contends (2004), emerge from social interaction; and different contexts create different types of potential for L2 learning (Richards, 2008).

Technological support was identified as another concern related to the CMC environment. New forms of technologies provide interactive functionalities that enable new types of language tasks to facilitate L2 learning (Chapelle, 2007). Online forum,
which was used in this research, contains functionalities necessary for the creation of an online communicative community, which enables interaction, dialogue, and reflection to support an opinion exchange type of task, as indicated by other researchers (Gerbic, 2006a; McLoughlin, 2002). It offers numerous opportunities for students to communicate and interact in the L2 (Barrs, 2012; Sotillo, 2000; Yildiz & Bichelmeyer, 2003). Active participation in the forum promotes collaboration in which members take responsibility for their learning (Mohd Nor et al., 2012). Compared with a chat room, discussion via a forum is considered less overwhelming or stressful because it reduces chaotic problems that result from the fast turnout of information and turn-taking pace (Shin, 2006; Yang, 2006). The discussion forum design is suitable for EFL non-English majors because it allows students to have more time for reflection.

Settings were also a concern when using the discussion forum, which provides flexible access that enables students to communicate inside or outside of the classrooms. As Chapelle (2007) maintained, new technologies provide opportunities for more interactive and cognitively more engaging learning as well as flexible ways of learning in different settings and modes. Existing empirical research shows that the asynchronous use of discussion forum provides the benefits of flexibility and self-paced learning (Barrs, 2012; Black, 2005). In particular, this research reveals that the use of discussion forum inside the classroom increases student participation, interaction and engagement because it provides instant responses (Sections 5.2.3, 6.1.1 and 6.1.2). The EFL students favoured the use of the forum inside the classroom, explaining that they
lacked spare time for participation after class (Section 7.1.2). This finding resembles the questionnaire results from An and Frick’s (2006) study documenting that out-of-class online discussion increases extra work. Settings are one of the factors that contribute to different learning outcomes, as Chen and Looi (2007) concluded in their study.

A learner-centred environment was perceived as another significant factor that affects learning in a blended context (Section 7.2.9), with small group communication situations forming part of the concern related to this factor. Student groups mainly directed their own discussions in working to attain the task goals, with teachers acting as facilitators or moderators rather than as authority figures. Students preferred collaborative, learner-centred small group discussions (Section 7.1.2) instead of traditional whole-class situations, as observed by previous researchers (Steeples, Goodyear, & Mellar, 1994; Wang & Wang, 2010; Yang, 2012; Yildiz & Bichelmeyer, 2003). Chen (2005) argues that small group discussions facilitate peer interaction and develop a sense of learner-centeredness, which plays a crucial role in affecting student participation, as validated with the questionnaire data reported in Section 7.2.7. Nevertheless, this reality has long been ignored in conventional language instruction in Taiwan.

Prior experience was a factor identified as highly influencing learning in blended discussions. To accomplish the tasks in this research, students were required to have technical skills, discussion skills and English writing skills; however, most students had
no prior experience with online discussions (Section 7.2.1). This may explain the high percentage (75%) of students concerned with this factor, as shown in the data in Section 7.2.9. Prior experience with computers, proficiency in using forum, and participating and moderating online discussions were all issues nominated as possibly affecting interaction and emotional conditions (Jung, Kudo, & Choi, 2012; Vrasidas & McIsaac, 1999). As Light et al. (1997) contends, experienced students feel more comfortable, contribute more and enjoy participating in online discussion. Their lack of prior experience may account for the negative attitudes that students exhibited towards online discussion, as described below.

8.5.3 Affective Factors

Affective factors refer to emotional conditions and attitudes that may influence student learning in blended discussions. This research yielded a wide scope of affective factors, such as feeling acquainted with others; feeling interested, pressurised or exhausted; feeling worried about taking part in discussions; feeling willing to practise English online; and feeling unreal to or unsuitable for online discussions.

The dominant affective factor emerging from the questionnaire data was familiarity with other participants (Section 7.2.9). Students were able to build closer relationships with their own group members, as proposed by Yildiz and Bichelmeyer (2003). Wen and Xuan, for instance, responded more to the participants with whom they were acquainted, as they felt more comfortable as part of a friendship group (Section 7.1.6).
This characteristic response pattern reflects a preference for small group discussion, which the students perceived as interesting or not boring, and as increasing self-confidence and a sense of belonging, as expressed by Tian (Section 7.1.2). This finding corresponds well with the existing empirical results from research, indicating that good communication occurs in online discussions where participants are familiar with each other (Calvani, Sorzio, & Varisco, 1997; Drysdale & Creanor, 1998; McAteer, Tolmie, Duffy, & Corbett, 1997).

As expected, students felt pressured and exhausted while communicating in online discussions. As the data shows in Section 7.1.10, Zhi feel pressured when discussing online one specific issue within the restricted time available in class. This reaction indicates that in-class online discussions might overwhelm the EFL students, which contrasts with the findings in other studies (Wang & Wang, 2010; Yang, 2006) that investigated out-of-class online discussions. Discussion in English also made students feel exhausted and unable to relax, which most likely decreased the number of messages exchanged and reduced in-depth thinking. The Internet and technology are other two factors that may provoke negative affective concerns. Tian felt easily distracted into browsing websites (Section 7.1.10) and worried about becoming too lazy to think in English by depending too much on web-aided translation (Section 7.1.8); these concerns are in line with the widely recognised detrimental affective issues related to language learning via a CMC tool (Beauvois, 1998; Jung, Kudo, & Choi, 2012; Ng & Cheung, 2007; Smith et al., 2005).
Student attitudes towards blended discussions represent another salient affective factor that might induce students to learn English. Most students displayed a willingness to practise writing and held positive attitudes towards online discussion communication in English (Section 7.1.7), which was also evident in their extracurricular activities. Jing, for instance, acquired the courage to write in English, especially when chatting with native speakers on Facebook after class. In contrast, several students expressed negative attitudes. For example, Ma reported a feeling of unreality in virtual discussion, while Ting felt a personal unsuitability (Section 7.2.2). The effects of these attitudes on engagement in online discussions depend on the students’ individual differences and have also been considered by other researchers (Beauvois, 1998; Wang & Wang, 2010).

8.5.4 Language Factors

English proficiency, particularly writing competence, was an influential language factor that affected communication in online discussions. Most students expressed that communication in text-based online discussion was difficult (Section 7.1.8), probably because they seldom communicated with others in English, and normally spoke L1 in regular English classes. Another reason for their difficulty may relate to the nature of in-class online discussion, which allows a restricted amount of time for students to instantly interpret thoughts in written English. Storch’s (2005) study confirms L2 proficiency to be an influential factor that affects language-learning achievements in a collaborative writing task.
Most students (87%) perceived such time-driven tasks as creating the need for using a translation machine. While modifying translations by restructuring sentences takes time, it does encourage student discussion. Despite their considerable dependency on web-aided translations, students with different levels of English proficiency were able to interact, which facilitated synchronous interactions during in-class online discussion. This shows that English proficiency directly affected student interaction (Section 7.1.6) in terms of the number of messages that were exchanged and the speed of responding, making the L2 proficiency factor of crucial importance (Smith et al., 2005; Smith, 2001), particularly for non-English majors learning EFL.

**Table 8.3: Factors affecting learning in blended discussions**

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<th>Curriculum factors</th>
<th>English proficiency</th>
<th>Translation machines</th>
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<td>Teacher scaffolds: clarification of the course content, provision of guidelines, discussion moderation, direction maintenance, and language error correction</td>
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<td>Assessment: mandatory, posting requirements, grade</td>
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<td>Task issues: task type, task goal, time length, task sequence, discussion topics and questions</td>
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<td>Environmental factors</td>
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<td>Mediums of communication: face-to-face/verbal conversations, online/text-based CMC</td>
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<td>Technological support: discussion forum</td>
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<td>Settings: inside classroom, outside classroom</td>
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<td>Learner-centred environment: small group situations</td>
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<td>Prior experience: familiarity with computers, proficiency in using forum, participating and moderating online discussions</td>
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<td>Affective factors</td>
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<td>Familiarity with other participants and feeling interested</td>
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<td>Feeling pressurised, exhausted or worried</td>
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8.6 Summary

This chapter discussed the findings of the EFL students’ dynamic learning performance and perceptions related to blended discussions for EFL learning to answer five Sub-research Questions. The processes of student interaction, collective construction of meaning, their perceived learning gains and key factors influencing learning in face-to-face and online discussions were examined. As a result, it was determined that students jointly learned through the mediation of L1 and L2, through collaborative dialogue, and through co-construction of meaning, as well as from teacher and peer scaffolds. Blended discussions contributed to students’ cognitive, language, interactional and affective gains. Curriculum factors, environmental factors, affective factors and language factors were identified as the four major factors that influence learning in this blended context. The following chapter will answer the main research question, present the conclusion of this research and will address its limitations and implications.
CHAPTER 9
CONCLUSION AND IMPLICATIONS

The previous chapter discussed the five sub-research questions that had to be answered in order to satisfy the overarching question. This chapter initially presents a brief summary and a research conclusion, with an answer to the overarching research question: “How do EFL students learn and perceive from engaging in blended face-to-face and online discussions?” The second section provides a brief discussion of the limitations of this research. The third section attends to the pedagogical and methodological implications drawn from this research for future educational practice and research.

9.1 Conclusion of this Research

The first principal purpose of this research was to investigate the manner in which groups of EFL students interacted and constructed meaning in blended face-to-face and online discussions. Another purpose was to explore how this blended approach had contributed to the EFL student learning in terms of learning gains and key influential factors. In answer to the overarching research question, this investigation revealed that the EFL students who participated in this research learned primarily through mediation of L1 and L2, through collaborative dialogue, and through co-construction of meaning, as well as from teacher and peer scaffolds provided in blended discussions through a set of interactive tasks that were done via a threaded discussion forum (see Section 8.3).
The students recognised that the blended approach had contributed to their L2 attainments in terms of cognitive, language, interactional and affective gains (see Section 8.4). Curriculum factors, environmental factors, affective factors and language factors were identified as four key influential factors that affected student learning in this blended mode of instruction (see Section 8.5). These results indicate that the blended discussions, which involve various modes of learning, have changed the traditional EFL classroom culture from passive to active (see Section 8.3) and have exerted a positive influence on student learning in terms of interaction (Section 8.1), processes of meaning construction (Section 8.2) and perceptions (see Section 8.4), all of which are under-investigated aspects of learning in L2 CMC-based research.

The qualitative findings pertaining to the dynamics of student learning performance in blended discussions revealed that groups of students interacted similarly when they were all engaged in the same task, but differently when engaged in different tasks (see Chapters 5 and 6). All students adopted various collaborative strategies to work together as a group to accomplish the tasks (Section 5.2.1), but the levels of the student engagement in the tasks varied across the groups (Section 5.2.3). The investigation also identified various functions of scaffolded interaction that were facilitated by blended discussions (Section 5.2.3). For example, in face-to-face discussions students tended to provide information and suggestions to improve task efficiency by using L1. In online discussions, students exhibited a willingness to use L2 to express thoughts, give comments and probe questions for exchanges of perspectives. The student interactions
that occurred in blended discussions confirmed that EFL non-English majors with different levels of English proficiency were able to assist each other to accomplish group tasks collaboratively, as evidenced in the existing empirical studies (Park & Nakano, 2001; Stockwell, 2005; Varonis & Gass, 1985).

More specifically, in-class online discussions with more embedded scaffolding from teacher-student prompts provided students with more opportunities for reflection and brainstorming, while the out-of-class mode without time constraints enabled students to engage in deeper thinking and more thoughtful reflection (Section 8.1.2). Commenting or critiquing arguments online facilitated critical thinking, while defending their own group arguments promoted manifestation of thoughts among the students. Blended discussions facilitated both individual and collaborative learning in which students co-constructed both linguistic and topic knowledge (see Section 8.2).

The findings described above indicate that blended discussions contributed to EFL learning by changing the traditional-class interactive patterns characterised as passive, linear and teacher-centred to interactive patterns that are active, dynamic, goal-oriented, self-directed and learner-centred (see Sections 6.3.2, 6.3.3, 8.1 and 8.2). This change of interaction patterns and the resulting gains in learning supports the argument of this research, i.e., applying a dynamic model informed by the constructs of mediation, scaffolding, interaction and the ZPD in SCT (Section 3.4) – in this case, by using blended discussions that include face-to-face and online modes of communication,
mediated by technological and language tools (forum, L1 and L2) and scaffolded by teachers and peers – can maximise EFL attainment in terms of interaction, meaning construction and learning gains.

The perceptions of the students, which were gleaned from the two sets of data – qualitative interview findings and quantitative questionnaire results – also recognised the benefits of blended discussions. Both data set results revealed positive perceptions from the students with regard to this innovative approach which contributed to their cognitive, language, interactional and affective gains (Section 8.4). Increased construction of the content knowledge, improved comprehension of the topic knowledge and enhanced thinking competency contributed to students’ cognitive gains, while improved language knowledge, increased awareness of language use, enhanced text reading comprehension, improved writing fluency and lexical density contributed to students’ language gains in text-based online discussions (Sections 8.4.1 and 8.4.2). These results revealed that blended discussions were successful in promoting the cognitive and linguistic processes that can benefit both cognitive and linguistic EFL learning.

In addition to increasing cognitive and language gains, the blended discussions also contributed to interactional and affective gains (see Sections 8.4.3 and 8.4.4). Students identified interpersonal interactions in blended discussions as meaningful and learner-centred. Online discussion as an integrated part of the course increased student
participation and interaction. Interactive interpersonal communication within a group and across groups promoted the use of different functions of scaffolded interactions for the process of achieving different task goals. Face-to-face interactions were communication-oriented to seek guidance and information, while online interactions were opinion-oriented to exchange perspectives. Dynamic and collaborative interactions between students in blended discussions resulted in meaningful interpersonal exchanges which increased their willingness to practise written English.

Examination of the roles played by teachers and students in this situation indicated that interactional scaffolds are required in this blended context. Teachers functioned as authority figures, moderators and facilitators, while students performed as experts, facilitators and novices. Blended discussions shifted the student role from one of passive recipient to a more active and participatory role, allowing them to obtain available assistance from more capable peers or from peers of equal or lower levels of proficiency. This finding establishes that blended discussions changed the teacher-student interaction to a more interactive and dynamic one by facilitating both expert-novice and peer-peer dialogic interactions (see Sections 8.3.3 and 8.3.4). According to SCT, the significance of interaction is that it functions like an engine to enhance language learning by moving the learning wheels of mediation, scaffolding, and the ZPD (see Sections 3.3.2).
The qualitative findings that emerged from the analyses of group observations and online logs complemented the students’ perceptions by identifying four key factors that had an influence on EFL learning in this context. Curriculum factors, environmental factors, affective factors and language factors were determined to be the leading agents of influence on student learning in terms of participation, interaction, meaning construction and perception (see Section 8.5). Teacher scaffolds, assessments and task issues were pinpointed as being of crucial importance in curriculum design (Section 8.5.1); while communication, technological support, settings, learner-centred environment and prior experience were recognized as vital considerations in creating a social context (Section 8.5.2).

Emotional states and English proficiency were two other factors that were discovered to have an effect on student participation and interaction (see Sections 8.5.3 and 8.5.4). According to the research findings, language factors and affective factors did not diminish the students’ positive attitudes or their preferences for this blended approach. Curriculum factors and environmental factors, however, affected learning most significantly in this blended context because EFL students preferred to learn with appropriate mediation and scaffolding. These findings indicate that computer-based tasks for effective language learning must include a variety of means for mediation and scaffolding within the curriculum and social context.
9.2 Limitations of this Research

There are several limitations in this research project that result from some of its particular features. First, it may not be possible to generalise the findings of this research to all other EFL classes because of the limited number of participants who participated in the studies. For example, the qualitative data were collected only from three groups of 14 participants (out of 49) and from eight online discussions (out of 11), while the quantitative data were gathered from 45 participants (out of 49). Hence, these specific research findings cannot be generalised to all EFL universities in Taiwan or to other similar contexts. Instead, the findings offer a contextualised understanding of how non-English majors in a Taiwanese university learned and perceived from engaging in blended discussions.

Second, the effectiveness of blended discussions was not measured in this research; pre- and post-tests were not administered to assess the students’ learning outcomes and compare them with those yielded by traditional instruction methods. Some conjecture exists to the effect that students might lose interest once the novelty of CMC-based discussion wears off (Cook, 2008) since CMC-based blended discussions are a relatively new learning experience for Taiwanese EFL students. To resolve this argument, quantitative assessment of the effectiveness of blended discussions should be further explored in future studies. The third and last limitation of this research arises from the fact that only the students’ perceptions were investigated with regard to the issues, while nothing that related to the teachers’ perspectives was included.
Incorporating elements in studies that explore the teachers’ perspectives can enhance data triangulation and may be a fruitful avenue for future research.

**9.3 Implications and Recommendations**

This research has a number of implications toward fostering language learning in Asia under CHC influence by employing a blended approach in a CMC-based context. The following paragraphs enumerate these implications with regard to pedagogy and methodology for educational practice and future research.

In L2 research, particular in Taiwan, there is no large scale systematic study for developing a CMC-based model built upon a credible theory for effective language learning. This research, which was informed by four key constructs from SCT – the constructs of mediation, scaffolding, interaction and the ZPD – applied a dynamic model (Section 3.4) to guide classroom instruction and task design for English learning in a blended context. This research examined in detail the functions of interaction and processes of meaning construction and systematically theorised the investigated phenomena. This model contributes to empirical L2 research by applying SCT to CMC-based collaboration and by the use of a blended approach for a thorough investigation into interaction and meaning construction, and it remains open to further theoretical and empirical applications resulting from the examination of other aspects of learning in a second or foreign language.
Taking EFL learners’ characteristics into consideration, an innovative strategy was adopted in employing a threaded discussion forum for online discussion both inside and outside the classroom. Integrating the discussion forum into the classroom highlights a synchronous way of using a forum that is especially applicable to non-English majors because conversations would be less hasty and chaotic than synchronous chat. Implementing different online discussion tasks in and after class maximises the use of dynamic scaffolded interactions in the blended context. This approach by means of a discussion forum contributes empirical evidence to L2 research and can be further applied to other educational contexts.

This study also contributes to L2 research by applying an embedded single case study with multiple units of analysis to investigate complex phenomena that occurred in a large class in a Taiwanese university, where it would be difficult to thoroughly observe a large class as one case and time-consuming to conduct multiple case studies. The embedded case study allows in-depth investigation of the phenomena across groups in a large class. The results from each group can then be drawn together to generate a holistic perspective of the whole case, and similarities and differences across groups in the results can be examined for further explanations. This methodological strategy, which to date has not been widely applied to L2 research, is applicable for future research.
This research highlights the usefulness of employing mixed methods for data collection and data analysis to examine student learning in terms of interaction, processes of meaning construction and perceptions. The qualitative data that was gathered from observations and online logs was analysed to describe students’ group functioning, the functions of scaffolded interaction and processes of meaning construction. The use of both quantitative and qualitative analyses enhances the reliability and validity of the student perceptions that were obtained from three focus group interviews and a survey questionnaire. Triangulation of data sources augments and reinforces the overall quality and trustworthiness of this research. Given the inadequacy of the existing CMC-based research employing mixed methods, combining qualitative in-depth inquiry that uses multiple sources of data with quantitative survey data in this study affords a fuller understanding of the topic under investigation and can be further applied to future educational practice.

EFL learning based on this dynamic model would successfully change the conventional language classroom culture by changing the students’ interactive patterns from passive and linear to active and collaborative, thereby improving their style of thought from one of rote memorization to one of critical thinking, and would include performance-oriented forms of assessment; all of these results are of paramount significance in meeting the core values of the current teaching reforms pertaining to the Taiwanese higher education (Education of Minister, 2008). This study provides research-based evidence that all language teachers can use as a guide for CMC-based
classroom instruction in 149 universities and colleges, as well as valuable information that can be used by educators and policy makers in considering relevant issues to make appropriate decisions about educational reforms.

This research offers the following recommendations for future studies with a design component of conducting blended face-to-face and online discussions in a second or foreign language context. First, it is recommended that future researchers conduct longitudinal case studies when cognitive and communicative aspects of learner language development or interpersonal processes are examined in CMC-based, blended instruction because language develops on a long term basis. Longitudinal studies could offer more important insights into language development.

Second, future research is recommended to examine EFL students’ language changes in contexts with language achievement as their chief focus. Students’ written conversations are the recommended choice of materials for peer revisions to improve linguistic knowledge and language use for two reasons: using the students’ authentic output helps them to understand the differences between the two language systems; and the actual language used in CMC interactions offers important insights into interpersonal inter-language development (Chapelle, 2004).

As a third research recommendation, the correlation between levels of interaction and language achievement should be investigated. Most CMC research presents the benefits
Chapter 9 Conclusion and implications

of intra-cultural CMC and merely provides suggestions. Whether a greater number of
interactions actually improves students’ language development remains an unanswered
question in CMC research. This issue has not been addressed satisfactorily, especially
through blended instruction. Results of such research would be greatly beneficial to
EFL teaching in the Taiwanese context, which focuses largely on language
achievement.

A fourth recommendation is that further research should be conducted to investigate the
use of out-of-class online discussion for language learning in the EFL context. It is
unexpected to find that Taiwanese students had a more negative attitude towards the
effectiveness of out-of-class online discussion as compared with in-class online
finding was not consistent with other previous studies showing a positive effectiveness
of out-of-class computer-mediated discussion. Further research with empirical evidence
is needed to provide more insights into this topic.

Fifth, future research is recommended to not only examine the influences of online
translation tools (Section 7.1.8) but also thoroughly investigate its mediating role used
in text-based discussion. The findings might warrant significant work for EFL learning
in terms of how Taiwanese EFL students use these tools to assist their study and how
these tools could be used more effectively. The role of online translation tools in a
CMC-based discussion would offer important insights into the effectiveness of using these tools for collaborative language learning, particularly in writing.

Sixth, it is recommended that students should be divided into small groups of five or six discussants (rather than only four or five) because an adequate number of EFL students in a group would result in a higher level of participation, which promotes interaction, particularly when members are absent. An appropriate number would also avoid chaotic dialogues that can occur from discussions in a large group. It is also recommended to have no more than ten groups in a class in order to ensure a manageable workload for teachers, giving them sufficient time to moderate the online discussions of each group and to provide timely support.

Finally, researchers who intend to conduct studies relating to computer-mediated discussion are advised to prepare and find a timely solution when the unexpected occurs because the process of data collection can be unpredictable. For example, students might question the fairness of the assessment for group work, which means that the study must include clear assessment criteria for online group tasks. The group members must be required to record their division of labour to ensure that the contributions of each member can be properly assessed. It is also possible that participants might respond problematically, or have difficulties in cooperating with data collection during observations or in focus group interviews. Adjustments need to be made that allow for improvements.
To conclude, empirical investigation of CMC-based research in the EFL context from a sociocultural perspective is still in its infancy. Much work remains to be done examining students’ performance or language achievements under a learning model built upon SCT. This thesis provides research-based evidence that contributes to CMC-based L2 research in its application of main constructs from SCT to the development of a dynamic language learning model, one which employs a blended approach to improve language learning in terms of interaction and meaning construction in the EFL context.

Additionally, this research contributes to a better understanding of Taiwanese EFL students’ perceived learning gains, and of the factors that influence the learning process within a blended mode of instruction. This research is of benefit to language teachers, educators and policy makers because of its application of SCT; because of the CMC-based language learning model that was developed for the study; because of the innovative technology and the applicable methodological strategy that was employed; because it provides a guide for creating and implementing CMC-based classroom instruction, and for the design of CMC-based tasks. These advantages provide insights into language teaching and facilitate the making of appropriate policy decisions.
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## Appendix 1 Research Studies on CALL in L2 Practice

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<td>Effectiveness of extensive speaking practice on speaking performance and learners’ perceived gains in voice blogs</td>
<td>46 college EFL students</td>
<td>Significant gains in speaking proficiency, but no significant improvement in pronunciation, language complexity, fluency, or accuracy; focus more on meaning expression</td>
</tr>
<tr>
<td>Tsai (2006)</td>
<td>Technology enhanced English skills</td>
<td>128 athletic students in a Taiwanese college</td>
<td>Improved overall learning performance; promoted interest of learning; improvements on test; positive attitude and less anxiety</td>
</tr>
<tr>
<td>Warschauer (1996)</td>
<td>Equality of student participation in FTF vs. electronic discussion; language complexity and language use; interaction; student attitudes</td>
<td>16 international students from an advanced ESL composition class at college level; group discussion in a computer lab by using synchronous discussion tool, InterChange</td>
<td>More equal participation in the electronic discussion, esp. for shy students; more formal and complex language in terms of lexical density and syntactical complexity; better attitudes toward electronic discussion; improved thinking ability; less direct interaction</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Research Question</td>
<td>Participants</td>
<td>Findings</td>
</tr>
<tr>
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<tr>
<td>Yang (2006, 2011)</td>
<td>Attitudes toward the instruction using SCMC discussion in class</td>
<td>50 college senior students in a university in Media English via online discussion (MSN Messenger)</td>
<td>Positive attitude toward online discussion, but half felt overwhelmed by the pace and chaotic discussion; increased motivation and participation</td>
</tr>
<tr>
<td>Yang (2012)</td>
<td>Students’ conceptions of and approaches to blended learning for enhancing their reading proficiency</td>
<td>54 students in a control group with on-site instruction and another 54 in an experimental group with blended learning</td>
<td>Effective in enhancing students’ reading proficiency; students take control of their own reading because of no limitations of time and location, more opportunities to analyse and reflect reading process in strategy usages, and interactive, learner-centred environment</td>
</tr>
<tr>
<td>Yildiz &amp; Bichelmeyer (2003)</td>
<td>Student participation and interaction;</td>
<td>21 students and 24 students in 2 web-based graduate-level courses at an American university; group discussions by using a forum</td>
<td>More equal and higher participation in electronic forum, esp. for silent students; higher level of perception toward forum participation with higher participation ratio; more posts in small group than in whole class discussion; no significance in difference in participation between native and non-native speakers</td>
</tr>
<tr>
<td>Yildiz (2009)</td>
<td>Effect of CMC on the social presence; Influence of linguistic and cultural differences on social presence</td>
<td>5 EFL-speaking international students in both Course A and Course B</td>
<td>Postings expressing support and encouragement with personal information; personalized with greetings, closures, and/or vocatives; show interest in native cultures with high social presence</td>
</tr>
</tbody>
</table>
## Appendix 2 Research Studies on Collaborative Learning in L2 Practice

<table>
<thead>
<tr>
<th>Authors</th>
<th>General Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dagenais et al., 2012</td>
<td>Sharing knowledge of diverse languages in classroom discussions fostered the discursive co-construction of new knowledge about the evolution of languages, relationships between languages and a critical stance on the relative status of languages.</td>
</tr>
<tr>
<td>Daniel, 1994</td>
<td>Subjects in cooperative learning groups reported higher need for social approval than subjects in individualistic learning groups. Need for social approval was more highly correlated with achievement motivation. Being in a cooperative learning group did not result in improved test performance, but results indicated that CL techniques enables students to coordinate their approval and achievement motivation by presenting academic excellence as a socially desirable behaviour.</td>
</tr>
<tr>
<td>Dornyei, 1997</td>
<td>Affective domain of CL played a crucial role in the educational potential of the method. The most important impact of CL process on learning motivation occurred at the learning situation level, but might influence motivational processes at the learner level as well. CL process resulted in improved students’ attitudes and motivation that energized learning. CL tended to produce a group structure and a motivational basis that provided excellent conditions for L2 learning. In a CL class students were motivated to engage in varied interactions while working intensively towards completing group tasks.</td>
</tr>
<tr>
<td>Ghaith, 2002</td>
<td>Cooperative learning was positively correlated with the perceived degrees of academic and personal support provided by teachers and peers. CL promoted an academically and personally supportive classroom climate and maximised positive interdependence and achievement among learners.</td>
</tr>
<tr>
<td>Ghaith, 2003</td>
<td>Learning Together cooperative learning model did not improve academic self-esteem and feeling of school alienation because of short interventions. Nevertheless, it improved reading achievement. Meaningful interaction in a supportive classroom environment was conducive to language learning.</td>
</tr>
<tr>
<td>Ghaith, 2004</td>
<td>Cooperative Jigsaw II method did not improve overall reading comprehension and literal comprehension. Nevertheless, it improved higher order reading comprehension. This result corroborates the findings of Chang &amp; Flint-Smith (1991) and Skon et al. (1981) that cooperative study promotes superior cognitive reasoning strategies and implicit comprehension. Students were motivated to interact together with peers to summarise, elaborate and report information. This supports the assumption that CL promotes critical thinking and creativity.</td>
</tr>
<tr>
<td>Lu, 2002</td>
<td>CL significantly helped enhance English oral performance, learning attitudes, social development and lower anxiety in speaking English.</td>
</tr>
<tr>
<td>McGroarthy, 1993</td>
<td>increased variety of language and input to the learner; increased interaction and output to the learner; increased responsibility for clarifying meanings; contextualised language learning with a meaningful purpose</td>
</tr>
<tr>
<td>Murphey, 2001</td>
<td>Recursive reflective tools seemed to enrich intermental interaction which led toward critical autonomy through negotiation and meaning scaffolding.</td>
</tr>
<tr>
<td>Stevens, et al., 1987</td>
<td>Cooperative Integrated Reading and Composition improved reading comprehension, reading vocabulary, language mechanics, language expression and spelling. Students performed better on writing sample and oral reading.</td>
</tr>
<tr>
<td>Stevens, 2003</td>
<td>Students in Student Team Reading and Writing had significantly higher achievement in reading vocabulary, reading comprehension, and language expression.</td>
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</tbody>
</table>
# Appendix 3: Observation Sheet

## Flow of discussion

<table>
<thead>
<tr>
<th>Dialogue</th>
<th>Participants</th>
<th>Content of discussion</th>
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</thead>
<tbody>
<tr>
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</tbody>
</table>

**Field notes:**
Appendix 4 Focus Group Interview Schedule

The University of Sydney

Centre for Research on
Computer-Supported Learning and
Cognition - CoCo
Faculty of Education and Social Work
University of Sydney NSW 2006
AUSTRALIA

Date: ____________________  Moderator: ____________________
Time interview began: __________  Asst. Moderator: ______________
Time interview ended: __________  Number of Interviewee: __________
Duration: ____________________  Location: ____________________

I. Opening

Good day and welcome to our session. Thank you for taking the time to join our discussion. My name is SuChing, a PhD student at the University of Sydney. Assisting me is ______. I have been observing your group discussions. In this session I am attempting to gain some insights from you to understand what and how you learnt in three blended discussion tasks. Please feel free to share your point of view even if it differs from what others have said.

Before we begin, please keep in mind that only one person should talk at a time. We are audio recording the session because we do not want to miss any of your comments. Your names will not be attached to comments in our later reports. The interview will last about one hour, and we will not be taking a formal break.

II. Interview questions

1. How did you feel about your group discussions last month?
2. What did you like to do in group oral discussion? Why?
3. What did you like to do in group online discussion? Why?
4. After observing your discussion activity, I found that some/many people have been done ______. Why?
5. After observing your discussion activity, I found that less/no people have been done ______. Why not?
6. Do you like the way the discussions are programmed? Why and why not?
7. How did you feel about your online group critique last month?
8. How do the blended discussion tasks affect your language learning?
9. What are some advantages and disadvantages of the blended discussions?

III. Closing

It has been a pleasure interviewing you and finding out your feedback on the discussions in class. Thank you very much for your help and I appreciate the time you took for this discussion. Is there anything else you think would be helpful for me to know more? I think I should have all the information I need. Thanks again.
Appendix 5 Survey Questionnaire

PART 1: Background Information
1. Gender: □ Male □ Female
2. Age: ________ years old
3. College: _________________________ Department: _________________________

PART 2: About English Learning
1. How long have you been studying English? _____ years
2. Have you ever taken part in English Proficiency Test?
   □ No
   □ Yes, Name of the test: ____________________________
   Grade: ______ or
   Level: □ Elementary □ Intermediate □ High-intermediate □ Advanced
3. What do you find your English competence? (Please circle the correct number which best represents your English competence.)
   Listening: 1 2 3 4 5 Speaking: 1 2 3 4 5 Reading: 1 2 3 4 5 Writing: 1 2 3 4 5
4. My motivation of learning English is (rate from 1 to 10)
   □ None □ Low (1-3) □ Medium (4-6) □ Medium-high (7-8) □ High (9-10)
5. Have you ever had any online English learning experience?
   □ No
   □ Yes, please specifically explain

   __________________________________________________________

6. Did you take any course using online discussion before?
   □ No
   □ Yes — □ Chinese class □ English class

7. Have you ever used web-translators to translate your thoughts into English?
   □ No
   □ Yes — Ratio: ____ (rate from 1 to 10)
PART 3: Perceptions

Please put an (X) in the correct box which best represents your views.
SA=Strongly Agree
A=Agree
N=Neutral
D=Disagree
SD=Strongly Disagree

I. What do you think about the integration of online discussion with F2F small group discussion in the classroom?

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
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</thead>
<tbody>
<tr>
<td>1. I am satisfied with integrating online discussion into F2F small group discussion.</td>
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<td>2. It motivates me to participate in the blended mode of small group discussion.</td>
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<td>3. I am engaged in the small group discussion.</td>
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<td>4. The discussions are more on-topic than in purely F2F small group discussion.</td>
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<td>5. I often used online discussion to express my opinions.</td>
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<td>6. I often used oral discussion to seek guidance and information.</td>
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<td>7. Online discussion promotes collaboration for meaning construction in F2F small group discussion.</td>
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<td>8. With the help of online discussion, I gain individual reflection on the topic.</td>
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<td>9. With the help of online discussion, I gain individual reflection on others’ opinions.</td>
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<td>10. F2F oral discussion helps me have a better direction of discussion during online discussion.</td>
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<td>11. F2F oral discussion helps me brainstorm more thoughts or ideas during online discussion.</td>
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<td>12. F2F oral discussion helps me better understand online text to compose my online postings.</td>
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<td>13. F2F interaction helps me gain immediate feedback to reduce a feeling of isolation.</td>
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</tbody>
</table>

Please comment on any of the above

II. What do you think about online group critique in the classroom?

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am satisfied with online group critique in the classroom.</td>
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<tr>
<td>2. I am motivated to participate in online group critique during the class.</td>
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<tr>
<td>3. I am engaged in online group critique in the classroom.</td>
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<tr>
<td>4. The discussions are on-topic in online group critique in the classroom.</td>
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<tr>
<td>5. I collaboratively construct meaning with others through online group critique in the classroom.</td>
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<tr>
<td>6. I brainstorm many thoughts or ideas during online group critique in the classroom.</td>
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</tbody>
</table>
II. What do you think about online group critique after class?

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. I am satisfied with online group critique after class.</td>
<td></td>
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<tr>
<td>2. I am motivated to participate in online group critique after the class</td>
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<td>time.</td>
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<tr>
<td>3. I am engaged in online group critique after class.</td>
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<tr>
<td>4. The discussions are on-topic in online group critique after class.</td>
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<tr>
<td>5. I collaboratively construct meaning with others through online group</td>
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<tr>
<td>critique after class.</td>
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<tr>
<td>6. I brainstorm many thoughts or ideas through online group critique after class.</td>
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<tr>
<td>7. I gain many opportunities to elaborate my thoughts or ideas.</td>
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<tr>
<td>8. I gain individual reflection on the topic in online group critique after class.</td>
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<tr>
<td>9. I gain individual reflection on others’ ideas in online group critique after class.</td>
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<tr>
<td>10. I give comments to others’ opinions in online group critique after class.</td>
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<tr>
<td>11. Flexible discussions with my own time and pace after class make me learn effectively.</td>
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</tbody>
</table>

Please comment on any of the above

IV. What do you overall think about this blended learning?

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
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</thead>
<tbody>
<tr>
<td>1. Overall, I am satisfied with this blended mode of discussions for</td>
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<tr>
<td>English learning.</td>
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<tr>
<td>2. I develop an interest to participate in this blended learning.</td>
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<tr>
<td>3. I am engaged in this blended learning.</td>
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<tr>
<td>4. Having done the discussion in the small group, I find it really prepared</td>
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<tr>
<td>me giving comments to show how I agree or disagree with others’</td>
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<tr>
<td>opinions during online group critique.</td>
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<tr>
<td>5. Having done the in-class online group critique, I learn to apply more</td>
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<tr>
<td>discussion skills to interact with others during off-class online group</td>
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<tr>
<td>critique.</td>
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<tr>
<td>6. Having done the off-class online group critique, I learn to think</td>
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<tr>
<td>critically during in-class online group critique.</td>
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</table>

Please comment on any of the above
7. Learning is meaningful through collaborative construction of meaning in this blended learning.

8. The blended learning improves my retention better.

9. I learn effectively through this blended learning.

10. The blended learning helps me to evaluate my own learning.

11. The blended learning improves my learning outcomes.

12. It is appropriate to integrate online discussion into English course as mandatory activity.

13. There should be more English courses like this.

Please comment on any of the above

V. What do you perceive the interaction and participation in this blended learning environment, compared to traditional F2F classroom learning?

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
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</thead>
<tbody>
<tr>
<td>1. I have more participation in the discussions.</td>
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<tr>
<td>2. I ask to seek information or request an answer more.</td>
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<tr>
<td>3. I inquire or start a dialogue more.</td>
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<tr>
<td>4. I provide answers to information-seeking questions more.</td>
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<tr>
<td>5. I share information more.</td>
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<tr>
<td>6. I elaborate, exchange, and express ideas or thoughts more.</td>
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<tr>
<td>7. I give comments to show how I agree or disagree with others’ opinions more.</td>
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<tr>
<td>8. I give comments to evaluate our learning in class more.</td>
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<tr>
<td>9. I provide guidance and suggestions to others more.</td>
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<tr>
<td>10. I have more interaction with the instructor through the blended mode of discussions.</td>
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<tr>
<td>11. I have more interaction with my group members through the blended mode of discussions.</td>
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<tr>
<td>12. I have more interaction with students from other groups through the blended mode of discussions.</td>
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<tr>
<td>13. This blended mode of discussions is more learner-centred.</td>
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<td>14. The interaction is more meaningful.</td>
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Please comment on any of the above

VI. How does this blended mode of learning improve your language competence?

<table>
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<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
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</thead>
<tbody>
<tr>
<td>1. It improves my understanding of vocabulary.</td>
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<td>2. It improves my understanding of grammar.</td>
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<td>3. It improves my understanding of sentence structures.</td>
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<td>4. It raises my awareness of language use.</td>
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</table>
5. I construct more language knowledge by text-based online discussion.
6. It improves my reading comprehension.
7. It improves my understanding of subject matters.
8. I construct more content knowledge by text-based online discussion.
9. It also improves my English writing competence.
10. I can produce more lexically denser written English.
11. I can produce more syntactically complex written English.

Please comment on any of the above

### VII. What do you think may influence you in learning in the blended mode of discussions?

<table>
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<tr>
<th>Questions</th>
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<tr>
<td>Prior knowledge</td>
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<td>Prior learning experiences</td>
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<tr>
<td>Immediate feedback through F2F interaction</td>
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<tr>
<td>Text-based online discussion for deeper reflections</td>
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<td></td>
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<tr>
<td>Mandatory nature of online discussion</td>
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<tr>
<td>The design of learning activities</td>
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<tr>
<td>The time length for activities</td>
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<tr>
<td>The types of discussed questions</td>
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<tr>
<td>The instructor’s participation &amp; involvement</td>
<td></td>
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<tr>
<td>Appropriate guidance &amp; instruction</td>
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<tr>
<td>Learner-centred environment</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Familiarity with other participants</td>
<td></td>
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</tbody>
</table>

Please comment on any of the above

Thank you very much for completing this survey. May I contact you to follow-up on your answers to this survey?  
☐ Yes  ☐ No

If you answered “Yes” above, please provide your name, phone number, and email. Your name will not show in the report.

Name: __________________________________________ Phone Number: ______________________

Email: __________________________________________

Messenger: MSN___________________________________________________________________YAHOO________________________________________

***END OF SURVEY • THANK YOU***
## Appendix 6 Data Collection Timetable

<table>
<thead>
<tr>
<th>Week</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 1</strong></td>
<td><strong>Orientation</strong></td>
</tr>
<tr>
<td></td>
<td><em>Introduced by instructor</em></td>
</tr>
<tr>
<td></td>
<td>• Brief introduction of the Course, course outline &amp; schedule</td>
</tr>
<tr>
<td></td>
<td>• Grouping &amp; seat arrangement, fill in group list (members, email, etc)</td>
</tr>
<tr>
<td></td>
<td>• Student selection of reading articles for presentation confirmed</td>
</tr>
<tr>
<td></td>
<td>• Submission of individual online discussion</td>
</tr>
<tr>
<td></td>
<td>• Assessment of online discussion</td>
</tr>
<tr>
<td></td>
<td>• 1st Online Discussion Question &amp; Outside reading article posted</td>
</tr>
<tr>
<td></td>
<td><em>Introduced by researcher</em></td>
</tr>
<tr>
<td></td>
<td>• Brief introduction of the research, Participant Information Statement explained &amp; Consent forms collected</td>
</tr>
<tr>
<td></td>
<td>• Introduction of group forum and discussion board on Blackboard Learning System, online discussion in practice</td>
</tr>
<tr>
<td></td>
<td>• Netiquette for online discussion, online resources</td>
</tr>
<tr>
<td><strong>Week 2</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Volunteer group observation announced (Group 2, 5 &amp; 7)</td>
</tr>
<tr>
<td></td>
<td>• Lecture by the instructor: Topic 1 &amp; Outside reading article briefly explained</td>
</tr>
<tr>
<td></td>
<td>• Participant observation started: Group 5</td>
</tr>
<tr>
<td></td>
<td>• Tips for online discussion, sample sentences used to perform a dialogue</td>
</tr>
<tr>
<td></td>
<td>• 1st In-class Online Group Discussion: two questions</td>
</tr>
<tr>
<td><strong>Week 3</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Feedback on online group discussion last week &amp; guidelines for online discussion of this week</td>
</tr>
<tr>
<td></td>
<td>• Marking rubrics for online discussion explained</td>
</tr>
<tr>
<td></td>
<td>• Demonstration of Discussion Board</td>
</tr>
<tr>
<td></td>
<td>• Participant observation: Group 5</td>
</tr>
<tr>
<td></td>
<td>• Follow-up: Online group discussion finished</td>
</tr>
<tr>
<td></td>
<td>• 1st In-class Online Group Critique</td>
</tr>
<tr>
<td></td>
<td>• 2nd Online Discussion Question &amp; Outside reading article posted</td>
</tr>
<tr>
<td><strong>Week 4</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 2nd Online Discussion Question reviewed</td>
</tr>
<tr>
<td></td>
<td>• Lecture by the instructor: Topic 2 &amp; Outside reading article briefly explained</td>
</tr>
<tr>
<td></td>
<td>• Participant observation: Group 2</td>
</tr>
<tr>
<td></td>
<td>• Feedback on online group discussion last week &amp; Guidelines for online discussion of this week</td>
</tr>
<tr>
<td></td>
<td>• 2nd In-class Online Group Discussion: one question</td>
</tr>
<tr>
<td></td>
<td>• 2nd In-class Online Group Critique</td>
</tr>
</tbody>
</table>
## Appendices

<table>
<thead>
<tr>
<th>Week 5</th>
<th>3rd Online Discussion Question reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lecture by the instructor: Topic 3 &amp; Outside reading article briefly explained</td>
</tr>
<tr>
<td></td>
<td>Participant observation: Group 7</td>
</tr>
<tr>
<td></td>
<td>Feedback on group argument of Group 7 of this week &amp; Guidelines for online discussion of this week</td>
</tr>
<tr>
<td></td>
<td>3rd In-class Online Group Discussion: one question about lost arts</td>
</tr>
<tr>
<td></td>
<td>3rd In-class Online Group Critique</td>
</tr>
<tr>
<td></td>
<td>4th Online Discussion Question &amp; Outside reading article posted</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Week 6</th>
<th>4th Online Discussion Question reviewed</th>
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<tr>
<td></td>
<td>Lecture by the instructor: Topic 4 &amp; Outside reading article briefly explained</td>
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<tr>
<td></td>
<td>Participant observation: Group 2 (decided to withdraw)</td>
</tr>
<tr>
<td></td>
<td>Feedback on group arguments of Group 6 &amp; 8, Guidelines for online discussion of this week</td>
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<tr>
<td></td>
<td>Group presentation list announced &amp; demonstration of student presentation PPT</td>
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<tr>
<td></td>
<td>4th In-class Online Group Discussion: one question about lost arts</td>
</tr>
<tr>
<td></td>
<td>4th In-class Online Group Critique</td>
</tr>
<tr>
<td></td>
<td>5th Online Discussion Question &amp; Outside reading article posted</td>
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<td>Focus group 1 on March 31</td>
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<table>
<thead>
<tr>
<th>Week 7</th>
<th>Group 2 presentation: Topic 5</th>
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<tr>
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<td>5th Online Discussion Question reviewed</td>
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<td></td>
<td>Outside reading article briefly explained by the instructor</td>
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<tr>
<td></td>
<td>Participant observation: Group 4 (replaced group 2)</td>
</tr>
<tr>
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<td>Feedback on group arguments of Group 6, 7 &amp; 10, Guidelines for online discussion of this week</td>
</tr>
<tr>
<td></td>
<td>5th In-class Online Group Discussion: one question</td>
</tr>
<tr>
<td></td>
<td>1st Off-class Online Group Critique: one week &amp; modify group argument if needed after discussion</td>
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</table>

| Week 8 | National English Test in Proficiency for All on the Web (NETPAW) |

<table>
<thead>
<tr>
<th>Week 9</th>
<th>Group 1 presentation: Topic 6</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mid-term exam</td>
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<tr>
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<td>6th Online Discussion Question &amp; Outside reading article posted</td>
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<tr>
<th>Week 10</th>
<th>Group 10 presentation: Topic 7</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>6th Online Discussion Question reviewed</td>
</tr>
<tr>
<td>Appendices</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>- Outside reading article briefly explained by the instructor</td>
<td></td>
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<tr>
<td>- Participant observation: Group 5</td>
<td></td>
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<tr>
<td>- Feedback on group arguments of Group 1 &amp; 4, Guidelines for online discussion of this week &amp; Group achievement from week 4 to 7 announced</td>
<td></td>
</tr>
<tr>
<td>- 6th In-class Online Group Discussion: one question</td>
<td></td>
</tr>
<tr>
<td>- 2nd Off-class Online Group Critique</td>
<td></td>
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<tr>
<td>- Focus group 2 on April 27</td>
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<table>
<thead>
<tr>
<th>Week 11</th>
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<tbody>
<tr>
<td>- Group 3 presentation: Topic 8</td>
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<tr>
<td>- Online reading article translation</td>
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<table>
<thead>
<tr>
<th>Week 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Group 4 presentation: Topic 9</td>
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<tr>
<td>- Online reading article translation</td>
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</table>

<table>
<thead>
<tr>
<th>Week 13</th>
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</thead>
<tbody>
<tr>
<td>- Group 6 presentation: Topic 10</td>
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<tr>
<td>- Online reading article translation</td>
</tr>
<tr>
<td>- 7th Online Discussion Question &amp; Outside reading article posted</td>
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<tr>
<td>- Focus group 3 on May 19</td>
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<table>
<thead>
<tr>
<th>Week 14</th>
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<tbody>
<tr>
<td>- Group 5 presentation: Topic 11</td>
</tr>
<tr>
<td>- 7th Online Discussion Question reviewed</td>
</tr>
<tr>
<td>- Outside reading article briefly explained by the instructor</td>
</tr>
<tr>
<td>- Participant observation: Group 7</td>
</tr>
<tr>
<td>- Guidelines for online discussion of this week &amp; A new requirement of 2 postings to contribute to group discussion &amp; Review assessment of online discussions &amp; Groups with the highest participation last week announced to encourage students</td>
</tr>
<tr>
<td>- 7th In-class Online Group Discussion: one question</td>
</tr>
<tr>
<td>- 5th In-class Online Group Critique</td>
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<tr>
<td>- 8th Online Discussion Question &amp; Outside reading article posted</td>
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<thead>
<tr>
<th>Week 15</th>
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<tbody>
<tr>
<td>- Group 7 presentation: Topic 12</td>
</tr>
<tr>
<td>- 8th Online Discussion Question reviewed</td>
</tr>
<tr>
<td>- Outside reading article briefly explained by the instructor</td>
</tr>
<tr>
<td>- Participant observation: Group 4</td>
</tr>
<tr>
<td>- Guidelines for online discussion of this week &amp; Groups with the highest participation last week announced</td>
</tr>
<tr>
<td>- 8th In-class Online Group Discussion: one question</td>
</tr>
<tr>
<td>- 3rd Off-class Online Group Critique: one week</td>
</tr>
<tr>
<td>- 9th Online Discussion Question &amp; Outside reading article posted</td>
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<thead>
<tr>
<th>Week 16</th>
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<tbody>
<tr>
<td>- Group 8 presentation: Topic 13</td>
</tr>
<tr>
<td>- 9th Online Discussion Question reviewed</td>
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<tr>
<td>Week 17</td>
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<tr>
<th>Week 17</th>
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<tbody>
<tr>
<td></td>
<td>Group 9 presentation: Topic 14</td>
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<tr>
<td></td>
<td>10th Online Discussion Question reviewed</td>
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<tr>
<td></td>
<td>Outside reading article briefly explained by the instructor</td>
</tr>
<tr>
<td></td>
<td>Participant observation: Group 4</td>
</tr>
<tr>
<td></td>
<td>Guidelines for online discussion of this week</td>
</tr>
<tr>
<td></td>
<td>10th In-class Online Group Discussion: one question</td>
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<td></td>
<td>4th Off-class Online Group Critique: one week</td>
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<table>
<thead>
<tr>
<th>Week 18</th>
<th><strong>Workshop</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Two questionnaires completed (one for the school and the other for the study)</td>
</tr>
<tr>
<td></td>
<td>Students’ grades announced</td>
</tr>
<tr>
<td></td>
<td>Q &amp; A</td>
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</table>
## Appendix 7 Subject Outline

### 授課計劃表（COURSE OUTLINE AND SCHEDULE）

<table>
<thead>
<tr>
<th>學年</th>
<th>學期</th>
<th>開課班级</th>
<th>課程代號</th>
<th>課程名稱</th>
<th>選修別</th>
<th>學分數</th>
<th>授課教師</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>2</td>
<td>管理一</td>
<td>A8227330</td>
<td>實用英文（二）</td>
<td>院必</td>
<td>3</td>
<td>趙蕙蘭</td>
</tr>
</tbody>
</table>

課程教材資料相關網址：（輸入本課程教材放置網址，學生可於課程查詢時連結，若無則不）

本課程與系所教育目標關聯性（The relation between the course and education objectives of the department）：

To enhance one’s ability to make use of languages.

拓展知識領域，強化競爭力。

To establish an all-encompassing development of knowledge and skills necessary for competition in a wide range of care endeavors.

### 授課目標（請填中文）：

1. 透過課堂與線上學習提升學生的英語能力。
2. 加強學生針對不同主題英文文章的理解、思考、討論與簡報能力。
3. 增強學生的學習動機。

### Aim：

This course aims to

- promote students’ English learning performance through both classroom and online learning;
- reinforce students’ thinking, discussing, and reporting abilities in various topics;
- raise students’ reading comprehension and the level of language use of various topics;
- train students to think critically through online discussions;
- increase students’ motivation and become an engaged and self-regulated English learner.

### 授課進度與大綱（Outline/Schedule of Course）：

第 一週: 課程介紹（Orientation）
第 二週: M-shaped society
第 三週: M-shaped society
第 四週: Space colonies
第 五週: Lost arts
<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Taiwan's hi-tech future</td>
</tr>
<tr>
<td>7</td>
<td>Why CEOs matter? (Group 2)</td>
</tr>
<tr>
<td>8</td>
<td>網路全民英檢NETPAW</td>
</tr>
<tr>
<td>9</td>
<td>Smell roses (Group 1)</td>
</tr>
<tr>
<td>10</td>
<td>Developing the next generation of Chinese business leaders (Group 10)</td>
</tr>
<tr>
<td>11</td>
<td>Major causes of global financial crisis (Group 3)</td>
</tr>
<tr>
<td>12</td>
<td>On the record (Group 4)</td>
</tr>
<tr>
<td>13</td>
<td>Financial accounting (Group 6)</td>
</tr>
<tr>
<td>14</td>
<td>Financial accounting and tax principles (Group 5)</td>
</tr>
<tr>
<td>15</td>
<td>A science of politics (Group 7)</td>
</tr>
<tr>
<td>16</td>
<td>Tourism today (Group 8)</td>
</tr>
<tr>
<td>17</td>
<td>Tourism and globalization (Group 9)</td>
</tr>
<tr>
<td>18</td>
<td>課程回顧與檢討Workshop</td>
</tr>
</tbody>
</table>

Students can gain the knowledge, skills, or advanced learning foundation:
- Different fields of knowledge
- Mastering the skills of recognizing and identifying information
- Developing skills to express their viewpoints, analyze their ideas and discuss topics.

Learning Outcome:
At the conclusion of the course, students should have:
Students should have:
- Acquired and increased knowledge of various issues;
- Enhanced skills in recognizing and identifying information;
- Developed skills to express their viewpoints, analyze their ideas and discuss topics.

Textbooks or References:
Andrew E. Bennett, Reading Pass 3, 文鶴出版有限公司, 2008
全民英檢一路通系列, 學生自選專業文章
Articles of various topics
全民英檢一路通系列, 文鶴出版有限公司, 2009

Condition (Prerequisite courses, restrictions, other conditions):
N/A

Course requirements (learning achievements, assignments, exams, etc.):
1. Oral report
2. Using Blackboard learning system for online discussions.
3.全民英檢模擬測驗
### Requirement of this course:

1. Oral presentation  
2. Using the Blackboard learning system for online discussions.  
3. GEPT simulation test

### 成績計算（Scoring）：

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>小組報告</td>
<td>30%</td>
</tr>
<tr>
<td>線上討論</td>
<td>30%</td>
</tr>
<tr>
<td>期中考試</td>
<td>20%</td>
</tr>
<tr>
<td>期末考試</td>
<td>20%</td>
</tr>
</tbody>
</table>

### 備註（Additional information）：

The course schedule is tentative and will be revised if necessary.
Appendix 8 Participant Information Statements

PARTICIPANT INFORMATION STATEMENT

Title: An Investigation of social interaction in a blended mode of F2F and online discussions in EFL classroom

(1) What is the study about?

The study looks at how Taiwanese university students of English as a Foreign Language (EFL) interact with each other and the instructor as well as construct knowledge in a blended learning environment. The research study intends to answer three questions: (1) How do EFL students interact with each other and the instructor in this blended environment? (2) What patterns of knowledge construction do EFL students generate in this blended learning environment? (3) How do EFL students perceive the impact of this blended mode of discussion activities on their learning experiences?

(2) Who is carrying out the study?

The study is being conducted by Su-Ching Huang who is a postgraduate student for the degree of Doctor of Philosophy in Education at The University of Sydney under Dr. Chun Hu who is a senior lecturer in the Centre for Research on Computer Supported Learning and Cognition.

(3) What does the study involve?

There are three components of the study: (1) classroom observation, (2) focus group interview and (3) questionnaire. If you agree to participate, you have the option to accept the invitation to participate in one or two or all of the three components.

The classroom observation will involve the observation of three groups of 5 participants, and note taking by the researcher. Three groups of students who participate in the classroom observation will participate in the focus group interview once. It will involve some specific questions to be discussed about the discussion activity in and out of class, and be held once a month in a free room at the university. All the students who agree to participate in the study will answer a questionnaire. The questionnaire will be administered once in class towards the end of semester.

A consent form needs to be signed should you accept the invitation to participate in any of the three components.
(4) How much time will the study take?

Classroom observation will take place during your normal class. Therefore, no extra
time is required from you. Each week one group will be observed for 30 to 50
minutes, across an 18-week semester.

Those who agreed to participate in the focus group interview will participate in one
two-hour session during the semester.

The questionnaire will take about 30 minutes to complete.

(5) Can I withdraw from the study?

Being in this study is completely voluntary - you are not under any obligation to
consent and - if you do consent - you can withdraw at any time without affecting your
relationship with the researchers or with I Shou University or the University of
Sydney.

You may stop the interview at any time if you do not wish to continue. The recording
of the voice and the information provided will not be included in the study. The
Consent Form will be destroyed.

(6) Will anyone else know the results?

All aspects of the study, including results, will be strictly confidential and only the
researchers will have access to information on participants. A report of the study may
be submitted for publication, but individual participants will not be identifiable in such
a report.

(7) Will the study benefit me?

Yes, the study will provide a new English learning experience through the use of
discussion forum in the F2F classroom. It may result in improving teacher-student
and student-student interaction, students’ motivation in learning, and increase
knowledge development during the practices of English Reading.

(8) Can I tell other people about the study?

Yes, you can tell others about the study and share your experiences with them.

(9) What if I require further information?

When you have read this information, the researcher, Miss Su-Ching Huang will
discuss it with you further and answer any questions you may have. If you would like
to know more at any stage, please feel free to contact Su-Ching, a PhD student at
+886 7 3518489 or +886 9127260424 (Taiwan).

(10) What if I have a complaint or concerns?

Any person with concerns or complaints about the conduct of a research study can
contact the Manager, Ethics Administration, University of Sydney on (02) 9827 8170;
(02) 8627 8177 (Facsimile) or human.ethics@usyd.edu.au (Email).

This information sheet is for you to keep
Appendix 9 Participant Consent Form

The University of Sydney

ABN 15 211 513 464

Dr. Chun Hu
Senior Lecturer in CoCo Research Centre

Faculty of Education and Social Work
Room 247
Building A35
University of Sydney NSW 2006
AUSTRALIA
Telephone: +61 2 9351 6339
Facsimile: +61 2 9351 5205
Email: c.hu@usyd.edu.au
Web: www.usyd.edu.au

PARTICIPANT CONSENT FORM

I, ................................................[PRINT NAME], give consent to my participation in the research project.

TITLE: An Investigation of Social Interaction in a Blended Mode of F2F and Online Discussions in EFL Classroom

In giving my consent I acknowledge that:

1. The procedures required for the project and the time involved have been explained to me, and any questions I have about the project have been answered to my satisfaction.

2. I have read the Participant Information Statement and have been given the opportunity to discuss the information and my involvement in the project with the researcher(s).

3. I understand that I can withdraw from the study at any time, without affecting my relationship with the researcher(s) or the University of Sydney or with Shou University now or in the future.

4. I understand that my involvement is strictly confidential and no information about me will be used in any way that reveals my identity.

5. I understand that being in this study is completely voluntary – I am not under any obligation to consent.

6. I understand that I can stop the interview at any time if I do not wish to continue, and the information provided will not be included in the study.

Investigation of social interaction in EFL blended learning classroom
Version [1]
7. I consent to:

i) Classroom observation 
   YES ☐ NO ☐

ii) Focus group interview 
    YES ☐ NO ☐

iii) Video-taping 
     YES ☐ NO ☐

iv) Questionnaire 
    YES ☐ NO ☐

Signed: ..................................................................................................................

Name: ....................................................................................................................

Date: ......................................................................................................................
**Appendix 10: List of Course Materials**

<table>
<thead>
<tr>
<th>Week</th>
<th>Title</th>
<th>Source</th>
<th>Category</th>
</tr>
</thead>
</table>
| 2    | 1. *M-shaped society*  
Website: VectorStudy.Com | Business administration |
| 3    | 1. *M-shaped society*  
Website: VectorStudy.Com | Business administration |
| 4    | 1. *Space colonies*  
2. *About Space colonies* | Textbook: Reading Pass 3  
Website: Lunar and Planetary Institute | Space science |
| 5    | 1. *Lost arts*  
2. *Traditional handicrafts: Embodiments of Taiwan's Native Culture* | Textbook: Reading Pass 3  
Website: Taiwan Tourism Bureau | Arts |
| 6    | 1. *Taiwan’s high-tech future*  
2. *The story of Taiwan: Inspiration from experience* | Textbook: Reading Pass 3  
Website: The story of Taiwan-Science and technology | Technology |
| 7    | 1. *Why CEOs matter?*  
Personal blog: Stever Robbins | Business administration |
| 9    | Smelling of Roses | Textbook: The Low-Down on the Top Job | Business administration |
| 10   | 1. *Developing the next generation of Chinese business leaders*  
Online Publication: Global Skills Update (Issue 22, Dec 2003) | Business administration |
| 11   | The major causes of global financial crisis | Financial management magazine | Finance |
| 12   | On the record | Financial management magazine | Finance |
| 13   | Financial accounting | Book: Accounting the Easy Way | Accounting |
| 14   | 1. *Financial accounting and tax principles*  
2. *Debt collection with a twist* | Financial management magazine  
Online Newspaper: Taipei Times | Accounting |
| 15   | 1. *A science of politics*  
2. *Taiwan-US beef trade talk* | Book of Political Science: An Introduction  
Online Newspaper: China Post | Policy management |
| 16   | 1. *Tourism today*  
2. *Tourism* | Book: Going International-English for Tourism  
Online project website: Explore more: working landscapes | Tourism |
| 17   | 1. *Tourism and globalization*  
2. *Strategic alliances why and how* | Proceedings of the 6th International Conference of the Faculty of Management | Tourism |

*Topics in italic were articles used for discussions.*
## Appendix 11 List of Discussion Questions

<table>
<thead>
<tr>
<th>Week</th>
<th>Discussion Topic</th>
<th>Discussion Question</th>
</tr>
</thead>
</table>
| 2-3  | M-shaped Society                         | 1-1. What are your arguments on the differences of an M-shaped society to a normal social system? Do you agree that M-shaped society is an unavoidable social issue?  
1-2. Does the model of M-shaped society reflect Taiwan’s economic changes? Why or why not?  
2. If you were given power in the executive office, in congress what would you present in canvassing supporters to help alleviate this situation? Justify your answer. |
<p>| 4    | Space Colonies                           | If you are given a chance to join the project of building a space colony, what is your ideal colony? Please brainstorm with your group to come up with 100 words to describe your space colony with elements required for humans to live a comfortable life.                   |
| 5    | Lost Arts                                | Some of the traditional handicrafts in Taiwan are becoming endangered. If you were a team running the business or a team of craftsmen who were facing this crisis, what problems would you address to the Council of Cultural Affairs and what would you ask them to help you? (Hint: You may think of 1 or 2 problems and request the Council to do 1 or more things to help you.) |
| 6    | Taiwan’s hi-tech future                  | Taiwan is well-known of its hi-tech sector. Some people may think Taiwan is still profitable to invest while others might think it has lost its competitiveness. If you were CEOs of a foreign company of technology, would you decide to invest in Taiwan? Please provide several reasons pro and con to explain why you would or wouldn’t invest in Taiwan. |
| 7    | Why CEOs matter?                         | A CEO is the leader of an organization. Although the CEO is in a powerful position with a relatively high salary, the job of the CEO is pressured with much responsibility. Some people believe that the performance of a company is attributable to the CEO who is responsible for the success or failure of a company. Please name several key duties of the CEO. Discuss with your group to prioritize them and give weights to those duties to better influence a company’s performance. |
| 10   | Developing the next generation of Chinese business | Many MNCs that pour in the market in China face a severe shortage of leadership talent. Some companies fill the gap with expatriates; some develop their own local leaders while some |</p>
<table>
<thead>
<tr>
<th>Appendices</th>
</tr>
</thead>
<tbody>
<tr>
<td>leaders</td>
</tr>
<tr>
<td>14</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>16</td>
</tr>
<tr>
<td>17</td>
</tr>
</tbody>
</table>
### Appendix 12: System of Process Categories in Bales’ IPA

<table>
<thead>
<tr>
<th>Function</th>
<th>Process</th>
<th>Paired processes addressing central problems of:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social-Emotional: Positive Reaction</strong></td>
<td>1. Shows solidarity, raises other's status, gives help, reward</td>
<td>1 &amp; 12 Problems of integration</td>
</tr>
<tr>
<td></td>
<td>2. Shows tension release, jokes, laughs, shows satisfaction</td>
<td>2 &amp; 11 Tension-management</td>
</tr>
<tr>
<td>Task Area: Attempted Answers</td>
<td>3. Agrees, shows passive acceptance, understands, concurs, complies</td>
<td>3 &amp; 10 Decision</td>
</tr>
<tr>
<td></td>
<td>4. Gives suggestion, direction, implying autonomy for other</td>
<td>4 &amp; 9 Control</td>
</tr>
<tr>
<td></td>
<td>5. Gives opinion, evaluation, analysis, expresses feeling, wish</td>
<td>5 &amp; 8 Evaluation</td>
</tr>
<tr>
<td></td>
<td>6. Gives orientation, information, repeats, clarifies, confirms</td>
<td>6 &amp; 7 Orientation</td>
</tr>
<tr>
<td><strong>Task Area: Questions</strong></td>
<td>7. Asks for orientation, information repetition, confirmation</td>
<td>7 &amp; 6 Orientation</td>
</tr>
<tr>
<td></td>
<td>8. Asks for opinion, evaluation, analysis, expression of feeling</td>
<td>8 &amp; 5 Evaluation</td>
</tr>
<tr>
<td></td>
<td>9. Asks for suggestion, direction, possible action</td>
<td>9 &amp; 4 Control</td>
</tr>
<tr>
<td><strong>Social-Emotional Area: Negative Reactions</strong></td>
<td>10. Disagrees, shows passive rejection, formality, withholds help</td>
<td>10 &amp; 3 Decision</td>
</tr>
<tr>
<td></td>
<td>11. Shows tension, asks for help, withdraws out of field</td>
<td>11 &amp; 2 Tension-management</td>
</tr>
<tr>
<td></td>
<td>12. Shows antagonism, Deflates other's status, defends/asserts self</td>
<td>12 &amp; 1 Integration</td>
</tr>
</tbody>
</table>

**Functional Codes**

- A: Problem of Orientation
- B: Problem of Evaluation
- C: Problem of Control
- D: Problem of Decision
- E: Problem of Tension-management
- F: Problem of Integration
### Appendix 13: Chou’s Revised Interaction Process Analysis
*Revised and Expanded by Chou (2002) based on Bales’ models*

<table>
<thead>
<tr>
<th>Code</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social emotional Area: Positive Reactions</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Shows solidarity, raises other's status, gives help, reward</td>
</tr>
<tr>
<td>2</td>
<td>Shows tension release, jokes, laughs, shows satisfaction</td>
</tr>
<tr>
<td>3</td>
<td>Agrees, shows passive acceptance, understands, concurs, complies</td>
</tr>
<tr>
<td><strong>Task Area: Attempted Answers</strong></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Gives suggestion, direction, implying autonomy for other</td>
</tr>
<tr>
<td>5</td>
<td>Gives opinion, evaluation, repeats, analysis, express feeling, wish</td>
</tr>
<tr>
<td>6</td>
<td>Gives orientation, information, repeats, clarifies, confirms</td>
</tr>
<tr>
<td>6.1</td>
<td><em>Gives personal information (positive social-emotional)</em></td>
</tr>
<tr>
<td>6.2</td>
<td><em>Gives topic-related information</em></td>
</tr>
<tr>
<td>6.3</td>
<td><em>Gives technical information</em></td>
</tr>
<tr>
<td><strong>Task Area: Questions</strong></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Asks for orientation, information, repetition, confirmation</td>
</tr>
<tr>
<td>7.1</td>
<td><em>Asks technical information</em></td>
</tr>
<tr>
<td>7.2</td>
<td><em>Asks topic-related information</em></td>
</tr>
<tr>
<td>7.3</td>
<td><em>Asks personal information (positive social-emotional)</em></td>
</tr>
<tr>
<td>8</td>
<td>Asks for opinion, evaluation, analysis, expression of feeling</td>
</tr>
<tr>
<td>9</td>
<td>Asks for suggestion, direction, possible ways of action</td>
</tr>
<tr>
<td><strong>Social emotional Area: Negative Reactions</strong></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Disagrees, shows passive rejection, formality, withholds help</td>
</tr>
<tr>
<td>11</td>
<td>Shows tension, asks for help, withdraws out of field</td>
</tr>
<tr>
<td>12</td>
<td>Shows antagonism, deflates other's status, defends or asserts self</td>
</tr>
</tbody>
</table>

*Categories in italics are additions to the original IPA.*
## Appendix 14: Zhu’s Coding Scheme

Note Category and Interaction Type

<table>
<thead>
<tr>
<th>Note Categories</th>
<th>Characteristics and Examples</th>
<th>Interaction Types</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Type I Question (information seeking)</td>
<td>Ask for information or requesting an answer (Question that has a direct or correct answer.) “What does hypermedia mean?”</td>
<td>Vertical</td>
</tr>
<tr>
<td><strong>2</strong> Type II Question</td>
<td>Inquiring, starting a dialogue (Question that has no direct or correct answer.) “How can we resolve the control issues such as governing the shared space when using a collaborative tool?”</td>
<td>Horizontal</td>
</tr>
<tr>
<td><strong>3</strong> Answer</td>
<td>Provide answers to information-seeking questions “Hypermedia means….”</td>
<td>Horizontal</td>
</tr>
<tr>
<td><strong>4</strong> Information sharing</td>
<td>Share information “My colleague and I have done a lot of thinking about the nature and effect of simulations….”</td>
<td>Horizontal</td>
</tr>
<tr>
<td><strong>5</strong> Discussion</td>
<td>Elaborate, exchange, and express ideas or thoughts “What intrigues me from this week’s reading is not how we define a tool, …but rather how tools change ourselves….”</td>
<td>Horizontal</td>
</tr>
<tr>
<td><strong>6</strong> Comment</td>
<td>Judgmental “I agree with A that Schorr’s article was….”</td>
<td>Horizontal</td>
</tr>
<tr>
<td><strong>7</strong> Reflection</td>
<td>Evaluation, self-appraisal of learning, self-adjustment “I found the class last night to be completely frustrating yet intellectually stimulating, …. it is what makes me think!”</td>
<td>Horizontal</td>
</tr>
<tr>
<td><strong>8</strong> Scaffolding</td>
<td>Provide guidance and suggestions to others “…let us not move our lives in this same ‘scripted’ direction. Use the tool as an idea generator, a place holder of ideas…”</td>
<td>Horizontal</td>
</tr>
</tbody>
</table>
Appendix 15: Coding Manual
(Revised and expanded based on Zhu’s model)

<table>
<thead>
<tr>
<th>Category</th>
<th>Characteristics</th>
</tr>
</thead>
</table>
| 1 Questions       | • Type I Question (questions to seek information or request an answer that has a direct or correct answer)  
                     • Type II Question (questions to enquire or start a dialogue that has no direct or correct answer) |
| 2 Answers         | • Provide answers to information-seeking questions in Type I or Type II          |
| 3 Information     | • Describing personal experiences                                              |
| sharing           |                                                                                  |
| 4 Discussion      | • Expressing thoughts (stating ideas)                                          
                     • Elaborating opinions (explaining ideas presented by using examples, giving reasons for or against a position, arguing own statements or listing advantages or disadvantages)  
                     • Elaborated responses that include clarification, explanation, and elaboration (reply) |
| 5 Comment         | • Showing an agreement (support)                                                
                     • Showing a disagreement (conflict)                                         
                     • Giving affirmative or negative comments: non-substantive or substantive comments (if comments provide with further personal opinions) |
| 6 Reflection       | • Self-appraisal of learning                                                   
                     • Acknowledging learning something new                                        
                     • Acknowledging importance of subject being discussed in learning           |
| 7 Scaffolding      | • Providing guidance or suggestions to other participants                       
                     • Correcting the participants’ language errors                              |
| 8 *Social talk     | • Acknowledging other participants’ contributions and ideas                     
                     • Expressing apologies                                                        |
| 9 *Synthesizing    | • Compiling related information together                                        
                     • Summarizing discussion messages                                              |

*Categories in italics are revisions or additions to the original model.

Coding Notes:
1. The unit of analysis is based on the main idea of each message. If one message only contains one idea such as “Express own thoughts”, it is coded as “Discussion” type of interaction. If one message contains two ideas such as “Comment” and “Express own thoughts”, it is coded as two functions of interaction, “Comment” and “Discussion”.
2. Messages which are incomprehensible or ambiguous or unable to categorise in any of above interaction function would note down for further discussion.
Appendices

Appendix 16 Researcher’s Reflective Journal

Week 1: Orientation
25 February - Time: 9:20am to 12am

The procedure of data collection started with an initial session, an orientation workshop. It was held in a digital language laboratory for 3 periods (150 minutes). It aimed to help students better understand the subject outline and course design as well as get familiar with each other and online learning environment. In the first period of the workshop, the lecturer reconfirmed members in each group and students were assigned their seats together according to their grouping for better group discussion. Students had been divided into 10 groups, 5 in a group, last (summer) semester. The researcher was introduced to the students by the lecturer, who subsequently briefly explained the subject outline and syllabus.

In the second period, the participant information letter concerning the purposes and methods of the study was distributed to the students with adequate explanation to invite them to participate in the research, but without giving too much information to bias them. Next, consent form was to be distributed to confirm which research activities they were willing to participate. The following table showed a preliminary result of student participation in three research activities. Based on the preliminary result, Group 5 was selected for group observation in week 2. Three groups with all members who agreed to participate in the group observation and interview will be selected.

<table>
<thead>
<tr>
<th>Group Observation</th>
<th>Interview</th>
<th>Video Recording</th>
<th>Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>43</td>
<td>31</td>
<td>30</td>
<td>41</td>
</tr>
<tr>
<td>Total: 53/Absence: 5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the third period, the researcher introduced online learning environment to the students and the lecturer. Students were given sufficient time to practice the basic functions needed for online discussion on Blackboard learning system. In order to develop a respectful and effective online discussion environment, etiquette for online discussion and useful online resources were particularly mentioned. Students were required to read two reading articles about the reading topic of the week before class since week 2. During this workshop, some technical problems occurred, for example, slow-speed Internet, computer breakdown, etc. These problems would definitely influence online discussion in the following weeks.

Week 2: M-shaped society
4 March - Time: 9:20am to 12am
The first period of this week was the lecture including a listening test that lasted for about 100 minutes. The topic of today’s lecture was ‘M-shaped society.’ PowerPoint presentation was used to conduct the lecture. Grammar translation technique was used to explain the definition of the words and grammar while drills were used to practice pronunciation and sentence structure. The lecture focused more on text comprehension and meaning transmission. There was a lack of provision of prior knowledge. These were current features of a typical English class offered to non-English majored students in the Taiwanese universities.

Since the lecturer was unable to put her attention on every student, most of the students were doing individual work. Students had no chance to express their viewpoints in their own words, but merely understand the English text of the article. According to the researcher’s observation, there was less interaction among students during the process of learning due to big class size. Isolated learning de-motivated students with English learning.

The second period of the class was group online discussions lasted for about 30 minutes. Before discussion, useful sentences to perform dialogues and tips for online discussion were particularly presented in order to improve students’ discussion skills. Two questions were originally planned for each group to discuss. Considering students’ unfamiliarity with the online learning environment and their limited English proficiency, each group was allowed to discuss Question 1 first in the group discussion forum and leave Question 2 for the next class session.

Group 5 with all members who agreed to participate in group observation was selected to be observed this week. The researcher hand wrote observation note. The observation aims to understand how group members interact with each other and the lecturer during the learning process. A report on the observation about students’ face-to-face and online interaction will be recorded. Their online discussion was already archived in the log.

In the final few minutes, those students who were absent, that included new students after adds and drops, were invited to participant in the researcher’s study. Participant information statement and consent form were distributed to them with brief explanation about the research. The result was shown in the following table.

<table>
<thead>
<tr>
<th>The result of student participation in research activities after add-drop</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group Observation</strong></td>
</tr>
<tr>
<td>-----------------------</td>
</tr>
<tr>
<td>48</td>
</tr>
<tr>
<td>Total: 57/Absence: 5</td>
</tr>
</tbody>
</table>
After class, the research and the instructor had a short talk about some changes needed for next week. It was decided to have a follow-up session for Question 2 and inter-group discussions next week.

**Week 3: M-shaped society follow-up session**

11 March - Time: 9:20am to 12am

**Lecture: 50 minutes**

The instructor gave some comments on students’ online discussion from last week. She presented some main characteristics of the M-shaped society to clarify some unclear concepts students had in their online discussion. After that, the critical issues of the questions were further explained to help students better answer the questions as well as some tips to back up their opinions. Marking rubric was also presented to promote the quality and quantity of students’ postings. Students’ individual’s postings in inter-group discussions would be graded according to the rubric as shown below.

**Marking Rubric for online discussion tasks**

<table>
<thead>
<tr>
<th>Group online discussion: 15% (Weekly group argument)</th>
<th>Individual online discussion: 15%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of the postings 10%</td>
<td>Quantity of the postings 5%</td>
</tr>
<tr>
<td>• Relevance: 3%</td>
<td>1 response: 1%</td>
</tr>
<tr>
<td>• Originality &amp; value: 4%</td>
<td>2 responses: 3%</td>
</tr>
<tr>
<td>• quality of writing: 3%</td>
<td>3 responses: 4%</td>
</tr>
<tr>
<td></td>
<td>4 or above: 5%</td>
</tr>
</tbody>
</table>

As far as English learning was concerned, the instructor selected several discussion transcripts to explain students’ English errors. From the transcripts of students’ discussions, it showed that there were many grammatical and structure errors in students’ writing. Although their level of English writing is not high, text-based online discussion provided students more opportunities to brainstorm ideas and organise their opinions to communicate with others in a less stressful online environment.

**Intra-group discussions: 50 minutes**

Since it was a follow-up lesson of week 2, the researcher kept observing group 5. Students were allowed to have another 10 to 15 minutes to summarise their opinions and came up with a group argument to the first question with their group members. Next, each group continued to discuss the second question for about 30 minutes and posted their group argument on the forum. Two questions discussed were:

1st question for group 1-5: What are your arguments on the differences of an M-shaped society to a normal social system? Do you agree that M-shaped society is an unavoidable social issue?
1st question for group 6-10: Does the model of M-shaped society reflect Taiwan’s economic changes? Why or why not?
2nd question: If you were given power in the executive office, in congress what would you present in canvassing supporters to help alleviate this situation? Justify your claim.

Inter-group discussions: 30 minutes
Students were required to do ‘group critique’ task for 30 minutes. Their group argument to the second question was critiqued by an assigned group. The researcher randomly assigned two groups to give comments on each other as shown below. Each group was requested to give comments on the other group, as well as to respond to others’ comments. Due to different progress of each group, it showed that the groups that had completed their work earlier wasted time to wait for the assigned group’s argument. This ‘group critique’ task aimed to help students provoke more insights into the topic under discussion by critiquing others’ arguments.

Group 1 gives comments on group 5; Group 2 gives comments on group 9;
Group 3 gives comments on group 8; Group 4 gives comments on group 7;
Group 5 gives comments on group 10; Group 6 gives comments on group 1;
Group 7 gives comments on group 6; Group 8 gives comments on group 4;
Group 9 gives comments on group 3; Group 10 gives comments on group 2

Other events: 20 minutes
The instructor demonstrated how to record individual’s online discussions in the Word format. It allowed each student to keep track of their weekly individual discussion in group critique task and would help the instructor to grade their individual’s online discussion as well.

This week was a follow-up session of week 2. Since integrating online discussion into traditional instruction was new to the instructor and the students, this 2-week lesson was considered as a trial lesson which helped both the researcher and the instructor to decide a more appropriate course design. Based on the observations, adequate time for online group discussion promoted student interactions, but too many questions for online discussion might reduce their levels of interests due to its text-based feature. For EFL students, especially non-English majors, they expected an English class to have explicit lecture, discussion and opportunities for oral speaking, and listening practice. Therefore, it was decided to do one-hour online discussion weekly with one question for both intra-group and inter-group discussions.

**Week 4: Space colonies**
18 March - Time: 9:20am to 12am
Lecture: 50 minutes
In traditional lecture as observed in this class, the interaction between the instructor and the students is one-way and passive. Due to big class size, with about 50 students in a class, the instructor usually requested one or all students to read the reading articles paragraph by paragraph to practice pronunciation. Then, the instructor used both English and Chinese to explain the definitions of English vocabulary, grammar and sentence structures to help the students better understand the articles. Finally, the students were led to do some vocabulary or grammar practice to enhance English language knowledge. Students merely listened to the lecture while some might take notes. Although multimedia, CD-Rom, was used to better present the content, the instructor merely had one-way physical interaction with one student at a time through the process of language practice. The interactions among students, as well as their cognitive presence were rare occurred.

**Intra-group discussion: 50 minutes**

Group 2 was observed this week. Students firstly were requested to discuss a question and come up with a group argument within 30 minutes. The discussion question of week 4 was:

*If you are given a chance to join the project of building a space colony, what is your ideal colony? Please brainstorm with your group to come up with 100 words to describe your space colony with things required for humans to live a comfortable life.*

Although students were requested to read assigned articles of this week before class, it seemed that most of them required more time to complete the task. It took many groups around 50 minutes to complete. It is needed to further explore why most students were unable to complete the task within 30 minutes. Not well-prepared or too much involved in the task?

**Inter-group discussion: 30 minutes**

After intra-group discussion, each group posted their group argument for group critique. Due to time constraint, they were not allowed to have extra time to do this task over 30 minutes. It showed that students did not have sufficient time for this task because the progress of the previous task would definitely affect the time for group critique. Two groups were assigned to do this task as shown below. Students were required to give at least 2 responses.

Group 1 & Group 10; Group 2 & Group 9; Group 3 & Group 8;
Group 4 & Group; Group 5 & Group 7

**Others: 20 minutes**

The instructor played a video about NASA’s program of the International Space Station and the people who work in NASA Marshall Centre to promote students’ knowledge about the topic, as well as for listening practice. Finally, the instructor demonstrated how to submit the 1st
assignment online by March 19. Individual’s online discussion of week 3 and 4 in group critique will be graded.

**Week 5: Lost Arts**

25 March - Time: 9:20am to 12am

The instructor spent 50 minutes for her lecture. After that, she spent another 10 minutes to give comments on the group argument of group 7 of last week (space colonies). It was decided that the instructor would select certain groups each week and give her feedback on both language and the content of students’ group argument in class. It aims to motivate and encourage students to participate in discussions. Prior to discussion task, discussion question was explained and some helpful guidelines were also briefly introduced for a better discussion. It took about 20 minutes.

Group 7 was observed this week. Students were encouraged to discuss online with the help of oral discussion. It took about 40 minutes for intra-group discussion. The discussion question of this week was:

*Some of the traditional handicrafts in Taiwan are becoming endangered. If you were a team running the business or a team of craftsmen who were facing this crisis, what problems would you address to the Council of Cultural Affairs (文建會) and what would you ask them to help you? (Hint: You may think of 1or 2 problems and request the Council to do1 or more things to help you.)*

After the small group discussion, each group was requested to post their group argument on the forum for group critique. In order to make time more effectively, the instructor randomly assigned two groups that had already completed their group argument to give comments on each other. The groups that completed their group argument earlier got more time to do group critique and showed more interactions in discussion than the groups that completed their work later. It took about 30 minutes for this task. Two groups were assigned to do this task as shown below. Students were required to give at least 2 responses.

Group 1 & Group 4; Group 3 & Group 10; Group 9 & Group 6;
Group 7 & Group 5; Group 8 & Group 2

**Week 6: Taiwan’s hi-tech future**

1 April - Time: 9:20am to 12am

**Lecture: 50 minutes**

The instructor spent 50 minutes for her lecture. After that, she gave comments on the group arguments of group 6 and 8 of last week (Lost arts). Prior to discussion task, the instructor explained the discussion question of this week and summarised some key points helpful to
provoke students’ opinions. Moreover, some hints were provided to help students how to make a group argument with their group members. It took about 25 minutes.

Group 2 was observed this week. Students were encouraged to discuss online with the help of oral discussion. It took them about 30 minutes for intra-group discussion. The discussion question of this week was:

*Taiwan is well-known of its hi-tech sector. Some people may think Taiwan is still profitable to invest while others might think it has lost its competitiveness. If you were CEOs of a foreign company of technology, would you decide to invest in Taiwan? Please provide several reasons pro and con to explain why you would or wouldn’t invest in Taiwan.*

From the previous class sessions, we learned that it was a good strategy to randomly assigned two groups that first completed their intra-group discussions to do group critique. Those groups that had completed their final work earlier were allowed to have more time to critique others’ arguments.

The inter-group discussion took them about 30 minutes. Two groups were assigned to do this task as shown below. Students were required to give at least 2 responses.

Group 3 & Group 4; Group 1 & Group 6; Group 2 & Group 10; Group 5 & Group 9; Group 7 & Group 8

**Week 7: Why CEOs matter**
8 April - Time: 9:20am to 12am
The lecturer first gave feedback to group 6, 7 and 10 on their group arguments of last week (Taiwan’s hi-tech future). Some comments were also provided to help students improve their English writing. The discussion question of this week was explained as well as some hints for better discussions of this week were provided. It took 30 minutes for this pre-discussion instruction.

Then, group 2 was assigned to do their presentation of their selected article. However, after 20-minute presentation, the instructor found that the students did not organise their team work well and also were not well-prepared for the article. Thus, they were requested to re-do their presentation with a different topic. The instructor changed to lead the first period as her lecture. Her subsequent lecture took about 40 minutes and then she used another 10 minutes to point out main concepts and ideas in the outside reading article. Based on the students’ interview feedback, students indicated that they might comprehend better and know how to lead their discussion if the instructor could explain the outside reading article as well.
Group 4 was observed this week. It was originally planned to observe group 2, 5 and 7. However, some students in group 2 expressed not to participate in group observation. Thus, a new group, group 4, was selected for observation this week. Students were encouraged to discuss online with the help of oral discussion. It took them about 50 minutes for intra-group discussion. During intra-group discussion, the lecturer walked around to each group to help solve students’ problems or answered their questions instead of interacting with students online. The discussion question of this week was:

A CEO is the leader of an organization. Although the CEO is in a powerful position with a relatively high salary, the job of the CEO is pressured with much responsibility. Some people believe that the performance of a company is attributable to the CEO who is responsible for the success or failure of a company. Please name several key duties of the CEO. Discuss with your group to prioritize them and give weights to those duties to better influence a company’s performance.

Due to time constraints, it was decided to do group critique after class this week. Each group would have one week to give comments on other groups’ arguments and respond to others’ postings. Two groups were assigned to do this task as shown below. Students were required to give at least 2 responses.

Group 1 & Group 2; Group 3 & Group 4; Group 5 & Group 6;
Group 7 & Group 8; Group 9 & Group 10

No online discussion in week 8 and 9

Week 10: Developing the Next Generation of Chinese Business Leaders
Date: April 29, 2010 - Time: 9:20am to 12am

Student presentation
Group 10 spent 75 minutes to present the article they selected. The student presentation was similar to instructor’s lecture using the grammar translation method technique with a focus on the explanation of vocabulary, sentence structures and meanings. The presentation was delivered in Mandarin Chinese with very limited English to drill the English sentences and practice pronunciation. During the presentation, the instructor had better physical interaction with the presentation group by asking questions or giving comments. However, the interactions amongst students were still low. Other students merely sat in their seats and listened as passive listeners. After the presentation, a short quiz was given to test students’ reading comprehension (10 minutes).
Intra-group discussion

Before small group discussion, the instructor spent another 15 minutes to give feedback to group 1 and 4 about their arguments of last week (Why CEO matters). Some comments were also provided to help students improve their English writing and to have better teamwork. The discussion question of this week was explained as well as some hints for better discussions were provided.

Group 5 was observed this week. Each group was requested to choose a moderator to facilitate group discussion and manage time. Students were encouraged to discuss online with the help of oral discussion. The discussion question was shown below. It took about 50 minutes for intra-group discussion. During intra-group discussion, the instructor walked around each group to help solve students’ problems or answered their questions instead of interacting with students online.

Many MNCs that pour in the market in China face a severe shortage of leadership talent. Some companies fill the gap with expatriates; some develop their own local leaders while some might adopt a combined approach. Which approach do you think is most likely to lead to successful leadership in China? Please provide several pro and con opinions to support your claim.

Due to time constraints, it was decided to do group critique after class this week. Each group would have one week to give comments on other groups’ arguments and respond to others’ postings. Two groups were assigned to do this task as shown below. Students were required to give at least 2 responses.

Group 1 & Group 2; Group 3 & Group 4; Group 5 & Group 6;
Group 7 & Group 8; Group 9 & Group 10

No online discussion in week 11, 12 and 13
Appendix 17 Ethics Approval: University of Sydney

The University of Sydney
Human Research Ethics Committee
Web: http://www.usyd.edu.au/ethics/human

Marietta Coutinho
Deputy Manager
Human Research Ethics Administration

Telephone: +61 2 8627 8176
Facsimile: +61 2 8627 8177
Email: mcoutinho@usyd.edu.au

Mailing Address:
Level 5
Jane Foss Russell Building - G02
The University of Sydney
NSW 2006 AUSTRALIA

Ref: DC/PR

15 October 2009

Dr Chun Hu
Faculty of Education & Social Work
Education Building - A35
The University of Sydney
Email: chu@edfac.usyd.edu.au

Dear Dr Hu,

Title: An investigation of social interaction in a blended mode of F2F and online discussions in EFL classroom (Ref. No. 12208)

Thank you for your ethics application that was considered at the meeting of The University of Sydney Human Research Ethics Committee held on 6 October 2009.

Approval of this project has been deferred for the following reasons. The Committee will give the application further executive consideration when these concerns have been addressed. Please provide one (1) original of your response.

1. A permission letter allowing the classroom observations should be forwarded to the Committee for approval.
2. Please submit safety protocols for research overseas.
3. At Application Section 3.3(b), more detail specifying the exact process of recruitment and how coercion will be avoided is requested.
4. The issue of coercion should be specially addressed in Section 3.4(a).
5. In Section 10.1, the off-campus box should be checked “yes”, and the in-a-school box checked “no”, since research is in an overseas university.
6. The following clarifications and amendments are requested of the Participant Information Statement:
   - Please amend Point 3 to make the order of events, and exactly who will take part in which sections of the study, more clear;
   - At Point 5, the phrase “with the researchers, or with 1 Shou University” should be added. Also, the researchers should clarify how the issue of one member of the focus group withdrawing will be dealt with. Will the whole videotape be erased even if the other members wish to continue?
   - Please include the international contact details for SuChing Huang at Point 9;
   - The complaints clause should reflect updated contact details, as follows: "Any person with concerns or complaints about the conduct of a research study can contact the Manager, Ethics Administration, University of Sydney on (02) 8627 8176; (02) 8627 8177 (Facsimile) or human.ethics@usyd.edu.au (Email)."


The above matters should be addressed numerically referring to the corresponding points above. If the Committee has requested amendments to particular questions in the application form, please submit only the relevant pages and underline the changes. Please DO NOT re-submit the entire application.

If the Committee has requested that you amend any additional documents, such as the Participant Information Statement or Consent Form, you are asked to underline these changes to assist the Committee’s checking of the amended documents.

Your reply should be sent to the Ethics Office, Human Research Ethics Committee, Level 6, Jane Foss Russell Building - G02.

Please note that if the Ethics Office does not receive a response from you within three months from the date of this letter, the application will lapse and a new application will be required.

Yours sincerely

Professor D I Cook
Chairman
Human Research Ethics Committee

cc: Su-Ching Huang, PO Box 712, Broadway NSW 2008
   Email: shua5711@uni.sydney.edu.au
Appendix 18 Ethics Approval: Centre of General Education at I-Shou University

Appendix 1

Dr. Chun Hu
CoCo Research Centre
Faculty of Education and Social Work
University of Sydney
Educational Building A35
NSW 2006
Australia

September 3, 2009

Dear Dr. Hu,

I am pleased to invite Su-Ching Huang, a postgraduate student in the Doctor of Philosophy in Education at the Faculty of Education and Social Work, University of Sydney, to conduct a study under your supervision at the Centre for General Education, I-Shou University during 2010. Miss Huang will have my class to conduct the study entitled “An investigation of social interaction in a blended mode of F2F and online discussions in EFL classroom.” I understand that the study will involve participant observations, focus-group interviews, and a questionnaire. I will facilitate the study in any way I can.

Yours sincerely,

Hui-Lan Chao, Ph. D.
Assistant Professor
Centre for General Education
I-Shou University
## Appendix 19 Observation Notes of Group 4

<table>
<thead>
<tr>
<th>Course: Practical English</th>
<th>Topic: Why CEOs matter</th>
<th>Date: April 8</th>
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</thead>
<tbody>
<tr>
<td>Instructor: Ms. Hulian Chao</td>
<td>Note: 10</td>
<td>Week: 7</td>
</tr>
<tr>
<td>Observer: SuChing Huang</td>
<td>Group/No: 4</td>
<td>Duration: 40 mins (11:10-11:50am)</td>
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<tr>
<th>Flow of discussion</th>
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<tbody>
<tr>
<td>Dialogue</td>
<td>Participants</td>
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</tbody>
</table>

S17-Tian, S18-Jing, S19-Niya, S20-Hao, S21-Cai

- The instructor walked around each group to assist them rather than interacted with them online.
- All members in this group read the assigned articles to gain more ideas first for it helped them answer the question. They spent some time to do individual work first.
- S20 and S17 used the web translation machines as a help to get the Chinese meaning of the discussion question. It seemed that they didn’t fully understand the question even after the instructor’s explanation. They didn’t ask their questions in class and instead they tried to ask help from other group members or use the web translation machines to get the Chinese meaning. Besides that, they translated the article into Chinese with the help of web translation machines for better understand the content. Furthermore, they typed their words in Chinese and get the English translations by the translation machines which helped them to translate their words to English and compose their English postings.
- S18 and S20 used the web dictionary to look up the words they needed.
Course: Practical English  
Instructor: Ms. Hulian Chao  
Observer: SuChing Huang  
Note: 11  
Group/No: 4 Continued  
Date: April 8  
Week: 7  
Duration: 40 mins (11:10-11:50am)

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<td>20 17 21</td>
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</table>
| 4                   | 18 19 20 17 21        | • S19 as the group moderator invited other members to work out a final answer together  
                          • They discussed how to structure their final answer |
| 5                   | 18 19 20 17 21        | • S19 typed ideas provided by other members  
                          • Other members shared and passed their thoughts to S19  
                          • S21 finally joined the group and all of them contributed their ideas to help compose a final group answer |

- S21 didn’t interact much with other members because his major differed from others. That meant he wasn’t acquainted with other group members. Thus, he spent most of his time composing his postings alone.
- For those students with low English proficiency, they spent more time looking up new words, translating reading article and discussion question, as well as translating their thoughts into English with the help of the web dictionary or translation tools. They spent time doing individual work first in order to improve their comprehension and organise their thoughts.
### Course Information

- **Course:** Practical English
- **Instructor:** Ms. Hulian Chao
- **Observer:** SuChing Huang
- **Topic:** A science of politics
- **Date:** June 3, 2010
- **Note:** 16
- **Group/No:** 4
- **Week:** 15
- **Duration:** 11:15am-12pm/45 mins

### Flow of Discussion

<table>
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<th>Dialogue</th>
<th>Participants</th>
<th>Main Ideas</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>19, 18</td>
<td>• Discussed to understand the meaning of the question and the direction of discussion</td>
</tr>
<tr>
<td></td>
<td>17, 20</td>
<td>• Discussed about the assigned reading articles to brainstorm more ideas</td>
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<tr>
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<td>21</td>
<td>• S20 used web translation machine to translate other members’ postings into Chinese and discussed them with S17</td>
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<tr>
<td></td>
<td></td>
<td>• Discussed and summarised their own opinions</td>
</tr>
</tbody>
</table>

### Content of Discussion

- **Field notes:**
  - S17-Tian, S18-Jing, S19-Niya, S20-Hao, S21-Cai
  - Each student did their individual work first; they read articles, guidelines for discussion or searched more information over the Internet.
  - S18 searched Yahoo-Knowledge for more information related to the topic and used web translation software to translate her words into English.
  - S17 typed her thoughts in Chinese in WordPad first for better organizing her thoughts and then used web translation machines to translate her words into English.
  - S20 searched Chinese articles related to the topic to get more ideas for discussion and then used web translation machines to translate his words into English.
  - Interaction patterns of the group: 1) Each made 2 postings to present their opinions to the question. 2) S17 & S20 summarised all members’ postings as a final answer.
# Practical English

**Course:** Practical English  
**Instructor:** Ms. Hulian Chao  
**Observer:** SuChing Huang  
**Topic:** A science of politics  
**Note:** 17  
**Group/No:** 4 Continued  
**Date:** June 3, 2010  
**Week:** 15  
**Duration:** 11:15am-12pm/45 mins

## Flow of discussion

<table>
<thead>
<tr>
<th>Dialogue</th>
<th>Participants</th>
<th>Main Ideas</th>
</tr>
</thead>
</table>
| 2        | 19 - 18 - 17 - 20 - 21 | • Discussed to organise their final answer  
• S17 enquired S19 about her stand in the postings (agree or disagree)  
• S17 asked group members to finally confirm their stand in their postings.  
• S19 & S18 enquired S17 about the meanings of her postings (confirmation check)  
• S19 asked S20 if he would like to offer more opinions  
• S17 enquired S19 & S18 if they had more opinions to answer the third part of the question. |
| 3        | 19 - 18 - 17 - 20 - 21 | • Summarised and discussed all members’ opinions posted online (S20 typed with S3’s help to structure English sentences.) |
| 4        | 19 - 18 - 17 - 20 - 21 | • S17 showed S20 how to post their final answer in the group critique forum. |

## Field notes:

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<th>Flow of discussion</th>
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<tbody>
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<td>Dialogue</td>
<td>Participants</td>
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<tr>
<td>1</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
</tbody>
</table>
| 2 | ![Diagram](image) | • S17 verbally asked about the meanings and opinions of S19’s postings. S19 verbally answered S17’s question.  
• S17 asked S19 which stand she took and S19 answered. |

S17-Tian, S18-Jing, S19-Niya, S20-Hao, S21-Cai

• All students read to understand the discussion question and typed down their thoughts first.
• S19 already read the article and drafted some main points before class. She translated her words in Chinese into English by using web dictionary and gave some detailed explanations to complete her thoughts.
• S17 typed her thoughts in Chinese in WordPad first and then she used web dictionary to get English words she needed to draft her thoughts in English in WordPad as well.
• S20 searched and read some Chinese articles to get more ideas. He used web translation software to compose his postings.
• S21 typed his thoughts directly on the forum and used web dictionary to help get English words to compose his postings. After S21 posted his thoughts, he started to read others’ postings. S21 was a silent student. He had no verbal interaction with other members. He only posted his thoughts on the forum. Mostly, he did his work individually.
Course: Practical English  
Instructor: Ms. Hulian Chao  
Observer: SuChing Huang  
Topic: Tourism & Globalization  
Note: 20  
Group/No: 4 Continued  
Date: June 17, 2010  
Week: 17  
Duration: 11:10am-11:50am

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<tr>
<td>Dialogue</td>
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<td>3</td>
<td>19 18 17 20 21</td>
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• After S19 & S20 posted their opinions, they browsed other websites irrelevant to the discussion.  
• The instructor walked around each group to offer help or get to know the progress of each group.
## Appendix 20 Observation Notes of Group 5

Centre for Research on Computer-Supported Learning and Cognition - CoCo
Faculty of Education and Social Work
University of Sydney NSW 2006
AUSTRALIA

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<tr>
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<tbody>
<tr>
<td>Dialogue</td>
<td>Participants</td>
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</tbody>
</table>
| 1                  | 22 ← 24              | • S22 asked S24 about how to translate her words into English sentences  
|                    | 23 ← 25              | • They worked out together by using the web dictionary |
| 2                  | 22 ← 24              | • Discussed and decided someone to summarise and edit members’ opinions as the group’s final answer  
|                    | 23 ← 25              | • Assigned S22 to do it and post the final group answer on the forum. |

Field notes:
S22-Wen, S23-Xuan, S24-Anan, S25-Zhi
1. During the discussion, some students in a group visited other websites irrelevant to topic discussion. (off-task)
2. Students tended to verbally discuss and decide someone to summarise and edit their members’ opinions as the group final answer. They would finally assign someone to type and post their group final answer on the forum for group critique.
3. Mandarin was spoken in face-to-face conversations.
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<th>Flow of discussion</th>
<th>Content of discussion</th>
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<tbody>
<tr>
<td>Dialogue</td>
<td>Participants</td>
</tr>
</tbody>
</table>
| 1                  | 25                   | • S24 asked S22 which forum to access for discussion; S22 showed S24 how to get to the right forum  
|                    | 22  24  23           | • Discussed about the meaning and the direction of the question under discussion  
|                    |                      | • Talked about what to do to engage the task (read the article first and then answer the question)  |
| 2                  | 25                   | • S24 informed S22 that Chinese translation of the question was provided  
|                    | 22  24  23           | • S24 asked S22 how to submit assignments; S22 showed S24 how to do it  |
| 3                  | 25                   | • S23 asked S22 which forum to access for discussion; S22 showed S23 how to get to the right forum  |
|                    | 22  24  23           | |

S22-Wen,S23-Xuan,S24-Anan, S25-Zhi

- Students in this group decided that S22 and S24 coordinated all members’ postings as their group final answer to answer the discussion question. Other students also offered their other opinions verbally. S23 often visited other websites unrelated to the discussion.
- *S25 asked the instructor where to get the outside reading articles (student-instructor).
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<tr>
<th>Flow of discussion</th>
<th>Content of discussion</th>
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<tbody>
<tr>
<td>Dialogue</td>
<td>Participants</td>
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<tr>
<td>4</td>
<td><img src="image" alt="Diagram" /></td>
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</tbody>
</table>
| 5 | ![Diagram](image) | • Shared their opinions. S24 tended to offer her opinions to S22 verbally, and S22 typed.  
• Composed English sentences together with the help of web translation machines |
| 6 | ![Diagram](image) | • S22 & S24 summarised members’ postings online to come up with a final answer  
• S25 offer his opinions to add the pros and cons of hiring expatriates into the final answer (S25 often offered his opinions to S22 & S24 after reading the article.) |

- S25 asked the instructor about the online submission of assignments and which groups to critique later (student-instructor).
- Some students in this group tended to provide their thoughts and ideas verbally to the coordinator. For those who posted ideas online, they tended to organize their thoughts thoroughly in a post to answer the question. Thus, it took them longer time to type and edit their online postings.
### Flow of discussion

<table>
<thead>
<tr>
<th>Dialogue</th>
<th>Participants</th>
<th>Content of discussion</th>
</tr>
</thead>
</table>
| 1        | 22 → 24     | • S24’s condition was not good (tired). S22 encouraged S24 to refresh her mind for discussion.  
          | 23 → 24     | • Discussed the meaning of the question of the week and the direction for discussion  
          |             | • Discussed their pro and con opinions (S22 enquired S24 about the con opinions) |
| 2        | 22 → 24     | • S22 enquired S24 about the spelling of some English words.  
          | 23 → 24     | • After S22 posted her thought on the forum, she started to browse shopping websites and chatted about food with S24. |
| 3        | 22 → 24     | • Summarised and discussed group members’ opinions in the postings as the group final answer (S22 summarise & typed as S24 offered help with English.) |

- Each student in the group read the discussion question individually first in order to understand the direction of the discussion.
- S22 typed her ideas in Chinese and got the English translation with the help of translation tools.
- S24 firstly read the assigned articles to get some ideas. After that, she took a short rest (nap). She sometimes searched Yahoo.Knowledge for more related information from as well as used web translation machines or web dictionary to help compose her English postings.
- S23 typed her ideas directly on the forum.
- S24 read the assigned articles to get some ideas. After he made his postings, he sometimes played online games as the teacher was not around.

*It would be more effective to increase interactions among group members if the students are requested to post certain of posts, rather than asking someone to moderate the discussion. Members might not listen to the moderator or the moderator might feel embarrassed to push other members too hard to take their accountability to participate in the discussion. The students were easy to get distracted in the environment of integrating the Internet into the class.
Appendix 21 Observation Notes of Group 7

Centre for Research on Computer-Supported Learning and Cognition - CoCo
Faculty of Education and Social Work
University of Sydney NSW 2006
AUSTRALIA

<table>
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<tr>
<th>Course: Practical English</th>
<th>Topic: Lost arts</th>
<th>Date: March 25</th>
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<tbody>
<tr>
<td>Instructor: Ms. Hulian Chao</td>
<td>Note: 6</td>
<td>Week: 5</td>
</tr>
<tr>
<td>Observer: SuChing Huang</td>
<td>Group/No: 7</td>
<td>Duration: 40 mins</td>
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### Flow of discussion

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<th>Content of discussion</th>
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<tbody>
<tr>
<td>1</td>
<td>30, 31, 32, 33, 34</td>
<td>• Discussed and decided which Taiwanese handicraft chosen for discussion</td>
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<tr>
<td>2</td>
<td>30, 31, 32, 33, 34</td>
<td>• S31 reconfirmed the forum to access and the question to discuss</td>
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<tr>
<td>3</td>
<td>30, 31, 32, 33, 34</td>
<td>• Discussed about the meaning and the direction of the question of the week with the help of web translation machines to translate the question into Chinese</td>
</tr>
</tbody>
</table>

- S30-Hua, S31-Min, S32-Yun, S33-Zhou, S34-Chou
- Some students were very familiar to use web English-Chinese dictionary.
- This group selected a handicraft through oral discussion first, and then they reviewed the article as well as checked vocabulary to gain more information for online discussion.
Course: Practical English  Topic: Lost arts  Date: March 25  
Instructor: Ms. Hulian Chao  Note: 7  Week: 5  
Observer: SuChing Huang  Group/No: 7  Duration: 40 mins

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Field note:  
S30-Hua, S31-Min, S32-Yun, S33-Zhou, S34-Chou  
• Students in group 7 focused on individual work first. For example, they reviewed the article, drafted their own thoughts, and then posted their opinions online for further discussion.  
• Students in group 7 made much effort to draft their opinions in English, resulting in less time for discussion online. Due to time constraint, they would turn to oral discussion to assign someone to summarise their group final answer.  
• S30 summarised all members’ opinions posted online as their group final answer.  
• The instructor orally gave applause on students’ engaged reflections online and on their improved learning attitudes with positive performance.
Course: Practical English  Topic: Financial accounting  Date: May 26  Instructor: Ms. Hulian Chao  Note: 14  Observer: SuChing Huang  Group/No: 7  Week: 14  Duration: 11am-11:30am/30 mins  

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<th>Flow of discussion</th>
<th>Content of discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dialogue 1</td>
<td>Participants</td>
</tr>
<tr>
<td>34 &lt;-&gt; 30</td>
<td>• Discussed to understand the meaning of the question of the week and the direction of the discussion</td>
</tr>
<tr>
<td>32 &lt;-&gt; 33</td>
<td></td>
</tr>
<tr>
<td>Dialogue 2</td>
<td>34 &lt;-&gt; 30</td>
</tr>
<tr>
<td>32 &lt;-&gt; 33</td>
<td></td>
</tr>
<tr>
<td>Dialogue 3</td>
<td>34 &lt;-&gt; 30</td>
</tr>
<tr>
<td>32 &lt;-&gt; 33</td>
<td></td>
</tr>
</tbody>
</table>

Field notes: S30-Hua, S31-Min, S32-Yun, S33-Zhou, S34-Chou  
• Students first silently read discussion question to help themselves get a better understand of what to answer. Then, they spent most of their time composing own their postings without much physical interactions.  
• S34 read outside reading article to grasp ideas from the article and then used web-dictionary to get English words to compose his posting.  
• S30 used web translation machine to translate his words into English sentences, and also used web-dictionary to get English words to compose his postings.  
• S33 read outside reading article to grasp ideas from the article used web-dictionary to get words they needed  
• S32 used web translation machine to translate article into Chinese in order to gain a better understanding of the article.
<table>
<thead>
<tr>
<th>Flow of discussion</th>
<th>Content of discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dialogue</td>
<td>Participants</td>
</tr>
</tbody>
</table>
| 4 | ![Participants](image) | • S34 asked S30 about English language questions to help compose English sentences.  
• S34 shared his opinions about other group members’ postings to S30 |
| 5 | ![Participants](image) | • S30 asked S32 if he could provide more opinions |
| 6 | ![Participants](image) | • Discussed frequently about other members’ opinions posted online (3x)  
• Help each other to summarise and edit members’ opinions in the postings as their group final answer. |

Field notes:
Appendix 22 Themes Analysis of Focus Group Interview 1

1st focus group interview
Date: March 31, 2010
Participants: Hua, Zhou, Min

### Small group strategies
- Each member was required to contribute their opinions and post them on the forum. (Hua)
- Each member in my group firstly organised individual opinions and then posted in the forum. One member would be assigned to synthesize all members’ opinions online and produced a group argument. (Hua)

### Materials and topics
- I normally didn’t read assigned articles before class. (Hua, Zhou, Min)
- Reading assigned articles before class helped to think faster when responding to others. (Zhou, Min)
- Reading materials in advance helped me better know what to discuss by stimulating more thoughts. (Hua, Zhou, Min)
- Assigned reading articles stimulated more thoughts for me. (Min)
- Outside reading materials provided me information required to answer discussion questions. (Hua)
- I was not accustomed to make reference to the information by using English because it was difficult for me to do it. I would have no trouble to do it in Chinese. (Hua)
- I would not choose to quote the information because I didn't fully understand the English reading articles. (Zhou)
- I wouldn't apply English sentence structures in the articles when drafting English sentences. (Zhou, Min)
- Discussing the topics, answering the questions or reading others’ posted messages facilitated the construction of knowledge and improved topic knowledge comprehension. (Hua, Zhou, Min)
- Organising individual thoughts to answer the questions helped me better comprehend the content of the articles. (Min)
- Some of the topics were not related to life experiences or major field of study. I could produce more thoughts if the topics under discussion were related to my life experiences or my major field of study. (Hua)
- Assigned topic readings and previous news I read were helpful information sources for me. (Zhou)
- Some of the topic knowledge was gained from my major field of study. (Hua, Zhou, Min)
- I was more familiar with the knowledge related to my major study. (Hua) I would use what I learn from my major study to answer the questions. (Hua, Zhou, Min)

### Discussion tasks
- **Sequences of tasks**
  -- One week of group discussion and one week of group critique would be more appropriate. Thirty minutes of discussion duration would be suffice. (Hua, Zhou, Min)
  -- I think it is better to have small group discussion. (Zhou)

- **Task requirement**
  -- I would respond in the discussion because of marks. (Hua, Min)

- **Discussion questions**
  -- The discussion questions were hard so I needed more time to think. (Hua) Thus, it took more time. When I was ready to type my thoughts, time was running short. (Hua)
  -- Controversial questions required mind processing on the questions and English as well (Hua, Min).
  -- Discussion questions weren't difficult to answer, but using English to interpret opinions made it difficult. (Hua, Zhou, Min)
  -- If the questions were easier, it would not be difficult to answer. (Hua, Min)
  -- If the discussion questions were too challenging, the time required for discussion would not be enough. (Hua, Zhou, Min)
  -- I think I responded to most questions appropriately. (Hua, Zhou)
  -- I would focus mainly on the core point of the question to do further explain. By this way I wouldn’t be biased to answer. (Min)

- **Time**
  -- We weren't paying attention on the time while doing discussion. When time ran short, it was hard to manage discussions. If longer time was given, it wouldn't increase student interaction. (Hua, Zhou, Min)
  -- I didn’t have much time left for further discussion with group members after organising my ideas and posting my opinions online (Hua) or before posting their thoughts (Min).
  -- It would take extra time to switch Mandarin to English. (Hua)
  -- Time required for discussion depends on the difficulty of the questions. (Hua, Zhou, Min)
  -- The frequency of responding depended on the time. (Zhou)

**Thinking competency**

-- It stimulated individual cognitive thinking. (Hua, Zhou, Min)
-- Small group discussion stimulated individual cognitive thinking. (Hua)
-- I normally processed discussion questions in my mind myself. (Hua, Zhou, Min)
-- I normally responded based on what I had in mind. (Hua)
-- In traditional English class we didn't need to think much but just sat in class and listened. (Min)
-- It slightly improved mind processing on discussion questions in out-of-class discussion because I needed to do it myself. (Hua)
-- Online group critique required mind processing to respond to other's opinions which were out of my mind. Comparatively, it was more difficult and exhausted to respond to others’
Appendices

opinions. (Hua)
-- I would respond if I was able to come out with some thoughts. If I couldn’t, then I would ignore to respond. (Hua)
-- Cognitive load was not too heavy. (Hua, Min)
-- If discussion lasted too long, it would give much brain load. (Hua, Zhou, Min)
-- Mind processing between Mandarin and English caused cognitive load. (Hua)

Language gains
-- Online discussion helped me better understanding my learning problems about English. (Hua, Zhou, Min)
-- The stimulation of thinking process was beneficial to my English learning. (Hua, Zhou, Min)
-- Online discussion provided me intensive and continuous English practice. (Hua)
-- Answering questions required mental processing on both the content of the topics and English language. (Hua, Min)
-- Initially I would think in Mandarin and then translate it into English. I used Chinese thinking logic to structure my English. (Hua, Zhou, Min)
-- Online discussion improved English writing skills, owing to repetitive English practice to respond others’ opinions. (Min)
-- It really improved the structures of English while re-organising sentences. (Hua, Zhou) I would need to think how to structure the sentences. (Hua)
-- Repetitive sentence practice in online discussion improved sentence structures. (Zhou) I didn’t have any chance to constantly practise English sentences in traditional English class before. (Zhou)
-- When I had difficulty in expressing my thoughts by translating Mandarin into English, I often used simple English sentences to paraphrase, but this might change my original meaning a bit. (Hua, Min)
-- It didn’t really improve English retention because I felt easily forgot English words after looking them up. (Hua)
-- It improved the understanding of the English content. (Hua, Zhou, Min)
-- It improved the understanding of the content after mental processing on discussion questions. (Min)
-- My reading comprehension was improved by organising ideas after reading the articles and by repeatedly read others’ online posted messages. (Min) Discussion with group members didn’t seem to do much help in text comprehension. (Min)

Modes of communication

• Face-to-face discussion
-- I would verbally ask English questions or simple queries. (Hua)
-- Verbal discussion allowed me to quickly get answers. (Hua, Zhou, Min)
-- I would verbally ask classmates when I had trouble in answering the questions. (Zhou)
-- I would seek more inspiration by verbally asking for opinions from other members. I normally had my own opinions, but it happened at one time or another that I suddenly ran out of ideas. (Min)

-- It was more effective and quicker to obtain instant responses (Zhou, Min) when synthesizing members’ opinions to produce a group argument through face-to-face discussion. (Hua)

-- Face-to-face discussion may not foster deep thinking. (Hua)

**Online discussion**

-- I was required to contribute at least one message online to the group argument. (Hua)

-- I would choose to respond online when someone replied my posted messages. (Min)

-- I would respond to others’ posted messages during online group critique. (Hua, Zhou, Min)

-- I would ask questions, read others’ responses to my opinions and respond to others’ posted messages in online group critique. (Hua, Min)

-- Online discussion fostered deep thinking. (Hua, Min)

**Interaction and participation**

-- I had more chances to interact and discuss with other classmates. (Hua)

-- Blended discussions promoted interaction and increased motivation. (Hua, Zhou, Min)

-- After class I would like to read others’ replied messages. (Zhou)

-- Reading other’s posted messages helped me know how to respond. (Hua)

-- In-class online discussion promoted student interaction. Interaction during in-class online group critique particularly motivated me to respond. (Hua, Zhou, Min)

-- I normally wouldn’t respond after class because I didn’t have time. (Hua, Zhou)

-- Low English proficiency limited the interaction frequency. (Hua, Zhou, Min) It was harder to express thoughts in English. (Hua)

-- Due to my low English proficiency, I normally wouldn’t ask any English questions. (Hua)

**Willingness to use English**

-- Even though we were allowed to annotate Mandarin behind English sentences, we still insisted to use English for more practice. (Hua, Zhou, Min)

-- I didn’t use Chinese annotation. I would still choose to use English because we were required to present an English group argument. (Hua)

-- It looked weird to annotate Mandarin behind English sentences even when we had difficulty in expressing in English. (Hua, Zhou)

-- I could guess and understand others’ meaning from their English sentences. (Hua)

-- I preferred to practise English in English class. If I didn’t understand any English words or sentences or structures, I would turn to ask my classmates or consult dictionary. (Min)

**Teachers’ scaffolds**

-- I would expect responses from teacher. (Hua, Zhou, Min)

-- Teachers would respond to our posted messages. Teacher’s responses motivated me to reply. (Min)

-- I didn’t expect teacher to correct my English errors as I wouldn’t actually check it. (Hua,
Appendices

Zhou, Min)

**Emotional conditions**

-- Blended face-to-face and online discussions were acceptable for me. (Hua, Zhou, Min)

-- Learning is more relaxing in the traditional English class. (Min)

**Learning effectiveness**

-- I really learnt English through blended discussions. (Hua, Min) Normally I didn't often practise English and didn’t have any chance to use it. (Hua)
Appendix 23 Themes Analysis of Focus Group Interview 2

2nd focus group interview
Date: May 19th, 2010
Participants: Wen, Anan, Xuan, Zhi

Small group strategies
-- Group members would work separately to search answers to sub-questions. Then we orally discussed to decide a group proposition. Finally, I would synthesize all opinions as a group argument. (Wen)
-- Group members would orally discuss group proposition and passed the information we gathered and our opinions to Wen who was in charge of group synthesis. (Xuan)
-- It was faster that group members orally discussed first and then someone synthesized all opinions as a group argument. (Anan & Zhi)
-- We would assign different members to answer different sub-questions if a question included sub-questions and then we worked separately to search relevant information. That meant some members sought information to answer one sub-question and some members did it to answer another sub-question. (Xuan)

Materials and topics
-- I read the assigned articles right before the discussion. (Wen, Xuan, Anan)
-- I would read these articles which were uploaded to Blackboard for students’ download before class. (Zhi)
-- I read more reading articles. (Xuan, Anan)
-- The reading articles offered too much information that I could not finish reading them prior to class. (Wen)
-- Reading the articles in advance shortened the thinking process. (Xuan)
-- I acquired much knowledge from the assigned reading articles which provided me information for discussion. (Xuan)
-- It must be helpful for discussion if reading the articles before class. (Zhi)
-- In the beginning I copied the sentences in the articles to support my thoughts without paraphrasing. (Xuan)
-- It was troublesome to make reference to the information in the assigned reading because it would take extra time to do it. (Anan)

Discussion tasks
• Task requirements
  -- I participated to respond because the instructor requested us to do it. (Xuan)
  -- I participated in online discussion because of marks. (Anan)
  -- I participated and contribute to online discussion mainly to receive good marks. Even if it’s not for marks I would still give some comments. (Zhi)
  -- Other group members sometimes did not respond to us in the class so we could only submit our assignment after class, but we easily forgot to do it. (Wen)
  -- I often forgot to submit my assignment right after discussion. (Wen, Zhi)
-- In the traditional class we did and submitted our assignment in class. We didn’t need to do it after class. (Xuan, Anan)

- **Task preferences**
  -- I did not have strong preferences for the conventional or new learning environment. With the traditional class we could have recess earlier, but now we were not allowed. (Wen)
  -- All three online discussion tasks were acceptable to me. (Wen)
  -- I preferred in-class online group critique. I benefited more from in-class mode of discussion. (Wen, Xuan)
  -- I often forgot to participate in out-of-class online discussion. (Wen, Anan)
  -- I preferred small group discussion because every group member could draw to one group argument to agree upon. (Xuan, Anan)
  -- Personally I did not prefer online group critique because others might have different views from me. (Xuan) I felt alone to think during online group critique. (Xuan, Anan)
  -- In-class or out-of-class modes of discussion were alright for me. (Xuan)
  -- I preferred out-of-class online discussion because I had more time to think. I benefited more from out-of-class online discussion. (Zhi, Anan)
  -- I liked online group critique because I found it challenging to have different viewpoints from others. (Zhi)

- **Discussion questions**
  -- The discussion questions were not too difficult for me. (Wen, Anan, Zhi)
  -- In conventional English class, the questions under discussion were more related to comprehension questions. In online discussion, controversial questions required us to express our own thoughts. (Xuan)
  -- Sometimes I did not really understand the questions and sometimes I felt the questions were difficult to answer. (Xuan)
  -- One core question might generate more sub-questions. If I don’t know how to respond all of the sub-questions, I would just respond to one of them. (Xuan)
  -- I would roughly post my answers if I could not get the main point to answer the questions. (Zhi)

- **Time**
  -- It took more time for me to think how to answer the questions. I would only post my opinions when I had complete thoughts about the issue. (Zhi)
  -- The time would not be enough if each person was required to answer each core question with sub-questions. (Xuan)
  -- Typing to express ideas was time consuming. (Wen)
  -- I benefited more from out-of-class mode of discussion because it allowed me to have more time to think. (Anan, Zhi)
  -- Fewer students participated in out-of-class discussion because they went online in different time slots. If I posted my opinions today, I might need to respond to others tomorrow. I did not have much spare time to check others’ postings. (Xuan)
Thinking competency
-- This new blended mode of discussions facilitated thinking. (Wen, Xuan, Anan, Zhi)
-- Cognitive load is acceptable. (Wen, Xuan, Anan, Zhi)
-- My thinking ability had improved (Wen, Xuan, Zhi). But I felt more exhausted. (Wen, Xuan)
-- Answering discussion question stimulated thinking. (Zhi)
-- The speed of mind processing was increased. (Xuan)
-- I would think about some relevant issues that were not mentioned in the articles because issues stated in the articles were commonly referred. Instead, I would choose to think more critically. (Zhi)
-- The process of translating my words into English was more difficult for me. (Anan)
-- In the traditional class all group members would only required to produce one answer to the teacher’s questions, but now we had five different views from each member and needed to organise them into a group argument. (Wen)

Language gains
-- It improved my writing skill. (Wen)
-- Blended discussions improved learning in many aspects except in linguistic aspect. (Anan)
-- Text-based online discussion stimulated thinking in grammar and sentence structure. (Zhi)
-- My English ability improved. (Zhi)
-- Grammar, sentence structure and vocabulary were also improved. (Zhi)
-- Discussion skill was also improved. (Zhi)
-- In a conventional English class, we had textbooks as study materials. I was more focused as taking notes in class. In online learning environment, my retention became short after browsing articles on Blackboard. (Xuan)
-- Translation required thinking in English grammar and sentence structure. (Xuan)
-- After class I found myself not remembered what I replied. If it were in traditional class I tended to remember it. I become accustomed to practical learning environment and probably that was why I tended to memorise less in a virtual learning environment. (Xuan)
-- My comprehension of the article contents increased after we went through discussions. (Wen, Xuan, Anan, Zhi)

Modes of Communication
• Face-to-face interaction
-- Face-to-face discussion was quicker to get answers. (Wen, Zhi, Xuan, Anan)
-- It was convenient to discuss with members verbally because we sat close to each other. (Wen)
-- I would verbally discuss reading articles and any queries related to the content or English language. (Wen)
-- We discussed verbally to distribute group work. (Xuan)
-- I would verbally ask opinions from other group members to stimulate more ideas. (Xuan)
-- Verbal discussion was quicker to clarify ideas and to summarise opinions for producing a group argument. (Zhi, Xuan, Anan, Wen)
-- Face-to-face discussion opens the opportunity for error correction. It is convenient for members to correct English errors verbally. (Xuan)

-- It was easier to discuss verbally with group members because it was difficult for me to translate my words into English. (Zhi)

-- We verbally discussed the questions that the teacher raised. (Zhi)

- **Online interaction**
  - During online group critique, each individual asked or answered their questions. (Wen)
  - I would respond to the questions that were raised by other group’s members and defend my own thoughts by providing more ideas or negative comments. (Zhi)

**Interaction and participation**

-- I think text-based discussion had similar level of effectiveness to that of face-to-face discussion. (Wen, Anan)

-- Integrating online discussion into English class promoted student interaction. (Zhi)

-- Oral discussion in small group was quicker, but online discussion by text was slow. (Wen)

-- I think interaction within a group was not as active as that in group critique. In the traditional class, group members were required to discuss verbally to gain aggregated ideas and opinions for answering given questions. However, in the computer aid environment, work could be done individually. Google could be used to assist to obtain information without much need of group discussion. (Wen)

-- I focused more on answering the discussion questions. If time was running short, I would ignore to respond to other's opinions. (Wen)

-- I would just focus on expressing my own thoughts. I did not mind if people interacted to discuss with me. (Anan)

-- I found that interaction was a lot less in out-of- class online discussion. (Wen, Xuan, Anan, Zhi)

-- Interaction was more active in online group critique because it involved other group’s participation. (Xuan, Zhi)

-- I browsed other websites first and participated in topic discussion till the last 10 minutes. (Xuan)

-- I was motivated to participate if the discussion was interactive. (Xuan)

-- I did not know what to reply if others’ responses were short, so I less responded to others. (Xuan)

-- I felt interaction in small group discussion and online group critique was similar in the frequency. (Anan)

-- I was more motivated to respond to those members who I knew. (Wen, Xuan)

-- I would kindly express myself if I was not acquainted with the person. (Anan) I wouldn’t truly express my opinions; instead, I would talk in a formal way. (Wen, Xuan, Anan) I wouldn’t really agree or disagree rather I questioned others’ opinions. (Anan)

-- It was more difficult to respond to others’ opinions because I did not know what to reply. (Anan)

-- There were fewer students involved in the discussion after class. I would respond to others’ opinions, but I normally needed to wait for others’ replies. (Zhi)

-- I did mind if there were students discussing with me. Besides the discussion, I also could read
Willingness to use English

-- It was troublesome to annotate Chinese behind English sentences. (Anan)
-- I felt it was weird to annotate Chinese behind English sentences as learning in an English class. (Zhi)
-- Students would tend to read Chinese annotation only instead of English messages. It would take time to actually type both out. (Xuan)
-- If I did not understand others’ messages, I would read Chinese annotation to assist. (Wen)

The use of translation machines

-- I would use Google translation software to translate Chinese into English. (Wen)
-- If I did not understand others’ postings, I would paste words directly on Google for translation. I did not want to wait for others’ response to get the answer. (Xuan)
-- In the past I used to look up dictionary word for word, but now I used Google translation software. (Xuan)

Teachers’ scaffolds

-- I really expected teacher’s responses. (Wen, Xuan, Zhi)
-- Any kinds of responses from teachers were fine for me. (Wen)
-- I expected teachers to lead me to think from another aspect. (Xuan, Zhi)
-- I think teachers’ participation would not affect our discussion. (Anan)
-- It was alright for me whatever the teachers responded. (Anan)

Emotional conditions

-- Online discussion in a virtual environment is acceptable for me. (Wen, Zhi)
-- Blended discussions were fun and interesting. (Wen)
-- I was not accustomed to discussion in a virtual online environment. (Xuan, Anan)
-- In the first seven weeks, I couldn’t become accustomed to blended discussions. I had a feeling of unfamiliarity. (Zhi)
-- The difference between physical and virtual modes of learning is that we used pen to write in physical mode but used keyboard to type in virtual mode. This difference made me to feel empty. (Zhi)
-- I did not dare to skip the class because my discussion posts would be archived in logs which were not existed in the traditional class. (Xuan)
-- I could doze off in the traditional class, but it was impossible to do during online discussion. (Xuan)
-- I was pressured to discuss online in class. It produced a poor learning effect. (Zhi)
-- I felt relaxed if it were done after class. Waiting for others’ responses did not make me reluctant to discuss. (Zhi)
-- To submit my weekly discussion record as an assignment made me feel pressured. (Zhi)
-- The traditional mode and blended discussions had their pros and cons. With the traditional mode, it was more relaxing. (Wen)
-- I felt pressured about blended discussions because I could not get out of class on time. (Wen)
-- I learned more with blended discussions. (Xuan, Zhi)
-- I learned more with traditional way of learning because everyone would discuss to answer questions verbally. But with blended discussions only a few students involved. (Anan)
Appendix 24 Themes Analysis of Focus Group Interview 3

3rd focus group interview

Date: June 8th, 2010

Participants: Niya, Tian, Jing, Yun

Small group strategies

-- We changed to oral discussion for a common group proposition first, from which every member started to express their opinions. (Niya)
-- Each member firstly reviewed the discussion question. Then, we orally discussed the focal points to answer the question. After that, we organised our individual thoughts and composed online postings. We normally expressed opinions online first. Then we would only turn to oral discussion when we had queries about the content or language in group members’ posts. (Niya)
-- Since Week 15, we had disagreements for the first time in online discussion. In order to solve the conflict, we changed to orally discuss an agreed group proposition at the beginning. (Tian)
-- We weekly assigned different persons to synthesize group members’ opinions as a group argument and took turns to do it. As the person was editing, other group members would orally contribute ideas or suggest whose opinions to be included in the group argument. All group members were invited to reconfirm the group argument through oral discussion prior to final submission. (Tian)
-- We gradually learnt to have an agreed group proposition, from which we started to express individual opinions because it was quicker. (Yun)
-- We took turns to synthesize opinions as a group argument. Other members may raise further oral discussion or ask for modifications after the group argument was posted on the forum. (Yun)
-- Prior to discussion, members would review the articles individually. After that, we started to orally talk about how to engage discussion and then each expressed their own thoughts online [individual work]. After posting individual opinions, we started to review members’ posts and orally discussed queries. Finally, we assigned one member to synthesize all opinions as a group argument. Any disagreement could be raised with a further oral discussion. (Yun)

Materials and topics

-- After the first few weeks I started to forget to read the articles assigned before class. (Tian, Jing, Yun)
-- I would read the articles and note down focal points in Mandarin before class. (Niya)
-- I could understand most of what the teacher said in class if I read articles before class. This really makes a difference. (Jing)
-- I would re-read the articles to simulate more thoughts for discussion. (Tian)
-- Reading assigned articles improved the speed of thinking process. (Tian, Yun)
-- I frequently made reference to the information in the articles to support my viewpoints. (Niya)
-- I would utilise words in the reading articles to help me express my opinions. (Niya, Tian, Jing, Yun)
-- I would use sentences learnt from the reading articles to help me structure my words in English so
I needed to be concentrated on the lecture in the first period of class. (Niya)

-- In-class discussion with class members would increase my comprehension of topics under discussion. (Niya)

-- I constructed more topic knowledge as exchanging ideas with group members or members of other groups during out-of-class online group critique because I already had my own thoughts after reading the articles. (Niya; Tian)

-- I would search more relevant knowledge online while responding to others’ questions in online group critiques after class. (Niya)

-- I would search articles relevant to topics under discussion online. (Jing)

-- If I did read topic materials, the discussion was more rewarding in out-of-class online discussion than in-class mode. (Jing)

**Discussion tasks**

- **Sequences of tasks**
  -- Conducting blended discussions in and after class provided more varieties for learning. (Niya, Tian, Jing, Yun) One disadvantage of out-of-class discussion was that we tended to forget to get ourselves involved after class. Blended discussions made learning less boring. If it is entirely in class we would feel the pressure and if it is entirely after class we would get bored. Thus, discussion in a blended context is a good way to increase student interaction and motivate students to get involved in. (Tian)
  -- It is better to have small group discussion in the first phase. (Niya, Tian, Jing, Yun) I was able to organise my thoughts in replying to the question (Tian). Small group discussion helped discussion in group critique. (Jing) Without discussing with group members in the small group, two groups of students appeared to discuss as a big group in group critique. (Tian)
  -- It is better to have small group discussion prior to the group critique as the group discussion helps each member to have preliminary common thoughts first. Otherwise each group member would say things differently. (Niya)
  -- It is good to have small group discussion weekly. In-class and out-of-class group critique can be used every two weeks interchangeably. (Tian)
  -- It is good to have English discussion like what we had but too much discussion made me get exhausted mind. (Tian)
  -- I would like to have more online discussion in different ways. For example, we can discuss something after watching a video clip or movie. (Niya)
  -- I agreed to have more discussions in group critique after class (Niya, Jing, Yun). Although I tended to forget to be involved in, I actually learnt a lot more from it. (Jing)
  -- I think such blended discussions can be done for one semester. Other activities can be added into class to provide learning varieties such as watching movie. (Jing)

- **Task requirements**
  -- One of my group members who had a different major seldom expressed his opinions in the beginning, but eventually did contribute some constructive opinions in order to meet this task
requirement. Because of unfamiliarity, we were embarrassed to ask him to join our discussion. (Niya)
-- The two-post minimum requirement encouraged those students who normally dozed off in class to read topic materials and contributed to the discussion. (Jing)
-- I really don't like to do a task for too long because I would forget to submit the assignment. If the discussions were done in class then this could be avoided. (Niya)

• Task preference
-- I prefer small group discussion. (Tian, Jing)
-- Working with group members increased self-confidence and a sense of belonging when critiquing the other group’s argument. (Tian)
-- I tended to respond to members who I am more acquaintance with. (Tian)
-- Being in a small group gives me a sense of family. (Tian)
-- Small group discussion is more student-centred and collaborative because we directed the discussion ourselves. (Niya, Tian, Jing, Yun)
-- Producing a group argument would require considerably more effort from the students than it would to merely post their individual opinions. (Jing)
-- If there weren’t many people involved in online discussion after class, I would choose to do it in class. (Niya)
-- I was more motivated to discuss in class. I was a bit lazy to join online discussion after class. (Jing)
-- During in-class online discussion I would quickly read others' posted messages without deep impression because I was expecting to finish the discussion before class recess. (Tian)
-- I prefer out-of-class group critique. (Niya, Yun)
-- I would like to have more online discussion after class than in class. (Niya, Jing, Yun)
-- I can learn more from discussion after class if I remember to join. (Jing)
-- I tended to be more motivated to re-read topic materials or read others’ posted messages in online discussion after class. But I tended to rely on my group members asking what I don't understand during in-class online discussion. This would make me a bit lazy to learn by my own. (Tian)
-- I tended to get better impression if I study on my own after class. I would easily forget what others told me. (Tian)
-- I prefer online discussion after-class because there is no pressure to give immediate response to the posted threads. I got more time to understand questions while discussing after class. (Tian)
-- I would still post my ideas and thoughts in online discussion after class although there are fewer people attended. I would do my part even if other students didn't respond. At least I got changes to practice my English. (Tian)

• Discussion questions
-- Discussion questions are not hard to understand and answer. (Niya, Tian, Jing)
-- Controversial questions are not difficult for me because the teacher would provide guidelines and explain the direction for discussion. (Niya)
-- Answering discussion questions after reading the articles stimulated my thoughts about topics.
under discussion. (Niya)

- **Time**
  -- At least we needed 30 minutes. Sometimes the time was tight but sometimes just enough. (Tian)
  -- I thought we needed roughly 50 minutes for small group discussion. It depends on the difficulty of the discussion questions. (Yun)
  -- We spent too much time on small group discussion so we did not have sufficient time for online group critique in class. (Tian)
  -- Time was sufficient if we just shared personal opinions. It would take more time to work as a group to come out with a group argument. (Jing)
  - Our group spent more time on exchanging our personal opinions in small group discussion. (Yun)
  -- I could have more time for reflection in out-of-class online discussion. (Tian, Jing)
  -- I had more time to search relevant information in out-of-class online discussion. (Yun)
  -- I easily forgot to participate in online group critique after class. (Tian, Jing)
  -- I normally would participate in online discussion after class the first day. When I got online the next day, I saw almost no responds from online members. I found that most students started posting their responses near the deadline. I didn't like to wait for replies so long. It was not effective. (Niya)
  -- One-week online discussion after class is a bit too long for me. (Niya)

**Thinking competency**

-- My thinking competency has improved (Niya, Tian, Jing, Yun)
-- Answering discussion questions in small group discussion stimulated individual cognitive thinking while commenting on others’ opinions facilitated critical thinking in group critique. (Niya, Tian, Jing, Yun)
-- I often come up with ideas that were mixed of other’s and mine. (Niya, Tian, Jing, Yun)
-- I would add others’ opinions into mine as a new idea. (Jing)
-- After reviewing other's opinions, I took time to think how to disagree with their opinions when I have different views with them. (Niya)
-- If someone’s opinion were different from mine and if I think mine is right, I would try to ask questions and see how he/she respond or convince me to prove me wrong. (Niya)
-- I felt that out-of-class discussion promotes thinking more than in-class group discussion. I have more time to think after class. (Niya, Tian, Jing, Yun)
-- My thinking process in English went faster in online discussion in class but it tended to have more errors because we were in the hurry for time was running out. (Jing)

**Language gains**

-- Online discussions improved the fluency in writing English with regards to mental processing and opinion expressions. (Niya, Tian)
-- Since senior high school, I started to chat online with native speakers. As compared, my fluency in writing English was improved. In the past, I understood what the person was saying but had no idea what to respond. Even though I have fewer chances to chat with native speakers now, I found that I was able to express my opinions in English more fluently. (Tian)
-- I used to spend longer time considering English sentence structures. But now I can quickly come out with English structures while typing without spending much time on thinking sentence structures after repetitive English practice through online discussion. (Niya)
-- Most of the time I used limited English structures that I know. At least it was an opportunity for me to practice. (Tian)
-- English vocabulary, sentence structures, grammar and retention improved through repetitive English practice. (Niya, Tian, Jing)
-- My English vocabulary improved most. While typing my opinions for discussion, I would consult dictionary when I forgot the word. It helped enhance the retention in vocabulary. (Niya)
-- In the class I normally didn’t memorise vocabulary. Through repetitive practice the impressions of words enhanced as if I memorised it. (Jing)
-- I would use the words from the reading articles to help me express myself. (Jing)
-- In-class online discussion promoted the speed of mental process in English but more language errors were made due to time limit. (Niya, Tian, Jing, Yun)
-- I had better reading comprehension in discussion in class due to time limit. But it was shallow comprehension. (Niya, Jing, Yun)
-- Blended discussions improved my discussion skills. (Tian)
-- I think blended discussions do not really improve my discussion skills because I am keen to speak and discuss with people. (Niya)

**Modes of Communication**

- **Face-to-face interaction**
  -- It is more effective to use verbal discussion, especially when we need to resolve disagreements in online discussion. It is faster to use oral discussion to summarise our thoughts. (Tian)
  -- I chose to discuss face to face when time was running short (Niya, Tian), when discussing to draw a group argument (Niya, Tian, Jing, Yun), when asking English language questions (Niya, Tian, Jing, Yun), when asking the direction of discussion from group members. (Jing, Yun)
  -- I could get immediate answers by discussing verbally. (Niya, Tian, Jing, Yun)
  -- When I have trouble understanding others’ online messages in small group, I would ask them verbally. (Niya)
  -- With regard to English learning, I still need a face to face contact with people because I am not able to express myself well in English. It would be hard for me to communicate if people kept misunderstood me. Thus I still need to discuss verbally. (Jing)
  -- I would often discuss or respond verbally in small group discussion. (Yun)
  -- Verbal discussion helped improve mutual comprehension and avoid misunderstanding. (Yun)
  -- I would choose to discuss verbally if other group members didn’t understand the questions I asked in small group discussion. We could get the answer quickly through verbal discussion. (Jing)

- **Online interaction**
  -- I could only respond by text in online group critique. (Yun)
  -- I could only type messages to respond if other members didn’t understand the questions I asked in
online group critique. (Jing)
-- I would post my opinions after reviewing the other group’s arguments. (Tian)

**Interaction and Participation**

-- In the traditional class, we just needed to watch the teacher writing on the board and reading the textbook. Although blended discussions were complicated at the beginning, we had much interaction with others. Online discussion promoted interaction and was more technology-oriented, compared to a board-writing traditional class. (Tian)

-- There is no difference for me to participate in online discussion in class or after class. (Tian)

-- I interacted more frequently with other members in blended discussions. There was very little interaction in the conventional English class. (Niya, Tian, Jing)

-- It does not really matter much for me whether or not to have face-to-face discussion, (Niya, Tian) as long as we interacted actively with each other in the online discussion. (Niya)

-- We had smooth interactions in small group online discussion. We often responded to members’ thoughts. But sometimes I would orally respond to my group members. (Tian, Jing)

-- If group members were not acquainted with each other, they would not really share many ideas. (Niya)

-- We would post our messages online. At the same time, we would orally remind the person that I had just responded you online. So we felt we had mutual interaction. (Tian)

-- I am motivated to reply when students responded to each other more rapidly that shortened the waiting time in online discussion in class. (Tian)

-- I would respond if others replied immediately in online group critique. (Tian)

-- We tended to have much higher response rate in online critique in class. (Tian, Jing, Yun)

-- Our counterpart responded us quite quickly. (Jing)

-- I would respond to provide more opinions if someone’s ideas were the same as mine in order to have more interactions. If our opinions were different, I would ignore. (Tian)

-- I would respond to defend my own opinions if someone’s thoughts were different from mine. (Niya)

-- I would need to read fast while discussing online in class. We responded much less because we were in a hurry for recess. (Jing)

-- The interactions in online group critique were slower. (Jing)

-- It didn't really affect me to respond if others responded slowly. (Jing)

**Willingness to use English**

-- Everyone was requested to express their thoughts by using English in online discussion. (Tian)

-- Adding Chinese annotation behind the English sentences would save time and help others better understand my meaning. (Tian)

-- I think it is better not to add Chinese annotation; otherwise, students would read Chinese directly and skip reading English. (Niya, Tian, Yun)

-- I think most students understood my English so I didn't really need to add Chinese annotation. If I didn't really understand others’ English in the postings, I would use translation machines to get
Chinese meaning. (Niya)
-- In the beginning I didn't really knew we were allowed to add Chinese annotations. I would choose to use Chinese to annotate my English after I knew this. (Jing)
-- Many students copied and pasted the English straight out from the translation. It was hard to understand it. With Chinese annotation, it really helped clarify what other's idea is. After reading the Chinese annotations, I would compare it with its English. This enabled me to learn some English words. (Jing)
-- I did not dare to express my opinions in English before because I was afraid of making errors in grammar and sentences, but now I dared to express my views in English owing to plenty of English practice through online discussion. (Tian, Jing)
-- I found that I was more able to chat in English with native speakers on Facebook now although they might not completely comprehend my meanings. (Jing)

The use of translation machines
-- I would use Google translation software to help express my opinions in English when I ran out of English sentences. I would then do some modification on the translated sentences. (Niya, Tian, Jing, Yun)
-- I worried that I would be too dependent on the computer that made me lazy to think in English and used Google translation instead. (Tian) I would become lazy after returning to the traditional class. (Tian)
-- I normally would use dictionary or translation software to translate Chinese into English in class owing to time limit. (Niya)
-- I would use the translation machines to help me structure English sentences to express my opinions because I was not able to apply sentences that I learnt. (Jing)
-- -- Many students copied and pasted the English straight out from the translation. It was hard to understand it. (Niya, Jing)
-- I needed to translate others’ English postings into Mandarin Chinese again by using the translation machines to understand their meanings. (Niya)

Teachers’ scaffolds
-- The instructor provided clear guidelines for discussion. (Niay, Tian, Jing, Yun)
-- I would expect the teacher to correct my English. (Niya, Tian, Jing, Yun)
-- I would expect the teacher to correct my grammar errors so I could learn from the mistakes. (Tian)
-- I worried that my grammar was not corrected. I would suggest teacher correcting grammar more; for example, one sentence a day. (Jing)
-- I would concentrate on reviewing teacher’s corrections of our group argument. I did not really have deep impressions of teacher’s corrections of other groups’ arguments. (Tian)
-- I would expect the teacher to join us in the discussion (Niya, Tian). I would expect the teachers to direct our discussion to the right direction. (Tian)
-- I would expect the teacher to give us more feedback and comments in online group critique. (Niya,
-- While the teacher was giving lecture, I did not spend much time thinking English. (Jing)

**Emotional conditions**

-- At the beginning it was hard for me to become accustomed to this type of blended face-to-face and online discussions. (Tian, Jing, Yun) After one month I became accustomed to it. (Tian) I have become accustomed to it now. (Niya, Tian, Jing, Yun)

-- I could relax with an empty mind in traditional English class, but needed to be more concentrated during blended discussions. (Tian)

-- I would easily get distracted when discussing online. (Tian)

-- I learned more with blended discussions. (Niya, Tian, Jing)

-- I found myself learnt different things through the discussions. (Tian)
Appendix 25 Questionnaire Results

Centre for Research on Computer-Supported Learning and Cognition - CoCo
Faculty of Education and Social Work
University of Sydney NSW 2006
AUSTRALIA

PART 1: Background Information

1. Gender: Male 23 (51.1%) Female 22 (48.9%)
2. Age: years old 18–20 (18: 22.2%, 19: 71.1%, 20: 6.7%)
3. College: College of Management
   Department:
   Industrial Engineering & Management: 5, Business Administration: 8, Finance: 10
   Accounting: 5, Public policy & Management: 4, Tourism: 6, Leisure Management: 3
   Hospitality Management: 1, International Business: 2,
   Materials Science and Management: 1

PART 2: About English Learning

1. How long have you been studying English? 6–16 years
2. Have you ever taken part in English Proficiency Test? No: 0, Yes: 45, Name of the test: GEPT (26), NETPAW (45), Cambridge (1)
3. What do you find your English competence? (Please circle the correct number which best represents your English competence.)

<table>
<thead>
<tr>
<th></th>
<th>Listening</th>
<th>Speaking</th>
<th>Reading</th>
<th>Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very bad</td>
<td>11.1%</td>
<td>6.7%</td>
<td>4.4%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Bad</td>
<td>17.8%</td>
<td>26.7%</td>
<td>15.6%</td>
<td>24.4%</td>
</tr>
<tr>
<td>Fair</td>
<td>48.9%</td>
<td>51.1%</td>
<td>55.6%</td>
<td>53.3%</td>
</tr>
<tr>
<td>Good</td>
<td>15.6%</td>
<td>8.9%</td>
<td>17.8%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Very good</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

4. My motivation of learning English is (rate from 1 to 10)
   Low: 6.7%, Medium: 62.2%, Medium-high: 26.7%

5. Have you ever had any online English learning experience? No: 31 (68.9%)
   Yes: 14 (31.1%): Fun-Day online learning system on the university Library website, online English proficiency tests, online English learning videos, online English news, online English magazines, online English listening or reading exercises

6. Did you take any course using online discussion before? No: 39 (86.7%), Yes: 6 (13.3), Chinese class

7. Have you ever used web translation machines to translate your words into English? No: 6 (13.3%)
   Yes: 39 (86.7%)
## PART 3: Perceptions

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
<th>Pos</th>
<th>Neg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am satisfied with integrating online discussion into F2F small group discussion.</td>
<td>6.7</td>
<td>44.4</td>
<td>28.9</td>
<td>20</td>
<td>0</td>
<td>51.1</td>
<td>20</td>
</tr>
<tr>
<td>2. It motivates me to participate in the blended mode of small group discussion.</td>
<td>6.7</td>
<td>33.3</td>
<td>46.7</td>
<td>11.1</td>
<td>2.2</td>
<td>40</td>
<td>13.3</td>
</tr>
<tr>
<td>3. I am engaged in the small group discussion.</td>
<td>15.6</td>
<td>46.7</td>
<td>35.6</td>
<td>2.2</td>
<td>0</td>
<td>62.3</td>
<td>2.2</td>
</tr>
<tr>
<td>4. The discussions are more on-topic than in purely F2F small group discussion.</td>
<td>11.1</td>
<td>42.2</td>
<td>31.1</td>
<td>15.6</td>
<td>0</td>
<td>53.3</td>
<td>15.6</td>
</tr>
<tr>
<td>5. I often used online discussion to express my opinions.</td>
<td>11.1</td>
<td>60</td>
<td>26.7</td>
<td>2.2</td>
<td>0</td>
<td>71.1</td>
<td>2.2</td>
</tr>
<tr>
<td>6. I often used oral discussion to seek guidance and information.</td>
<td>15.6</td>
<td>51.1</td>
<td>31.1</td>
<td>2.2</td>
<td>0</td>
<td>66.7</td>
<td>2.2</td>
</tr>
<tr>
<td>7. Online discussion promotes collaboration for meaning construction in F2F small group discussion.</td>
<td>15.6</td>
<td>28.9</td>
<td>44.4</td>
<td>11.0</td>
<td>0</td>
<td>44.5</td>
<td>11.1</td>
</tr>
<tr>
<td>8. With the help of online discussion, I gain individual reflection on the topic.</td>
<td>15.6</td>
<td>42.2</td>
<td>33.3</td>
<td>8.9</td>
<td>0</td>
<td>57.8</td>
<td>8.9</td>
</tr>
<tr>
<td>9. With the help of online discussion, I gain individual reflection on others’ opinions.</td>
<td>11.1</td>
<td>42.2</td>
<td>35.6</td>
<td>11.1</td>
<td>0</td>
<td>53.3</td>
<td>11.1</td>
</tr>
<tr>
<td>10. F2F oral discussion helps me have a better direction of discussion during online discussion.</td>
<td>13.3</td>
<td>51.1</td>
<td>22.2</td>
<td>11.1</td>
<td>0</td>
<td>64.4</td>
<td>11.1</td>
</tr>
<tr>
<td>11. F2F oral discussion helps me brainstorm more thoughts or ideas during online discussion.</td>
<td>8.9</td>
<td>55.6</td>
<td>28.9</td>
<td>6.7</td>
<td>0</td>
<td>64.5</td>
<td>6.7</td>
</tr>
<tr>
<td>12. F2F oral discussion helps me better understand online text to compose my online postings.</td>
<td>13.3</td>
<td>53.3</td>
<td>31.1</td>
<td>2.2</td>
<td>0</td>
<td>66.6</td>
<td>2.2</td>
</tr>
<tr>
<td>13. F2F interaction helps me gain immediate feedback to reduce a feeling of isolation.</td>
<td>13.3</td>
<td>53.3</td>
<td>24.4</td>
<td>8.9</td>
<td>0</td>
<td>66.6</td>
<td>8.9</td>
</tr>
</tbody>
</table>

Please comment on any of the above

S5: Any type of discussion was alright for me.
S13: The group discussion was interesting and not bored when discussion and interaction among members became more frequent.
A5: There were some group members who only sought to pass the subject and did not truthfully involved that poor discussion progress often occurred.

## II. What do you think about online group critique in the classroom?

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
<th>Pos</th>
<th>Neg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am satisfied with online group critique in the classroom.</td>
<td>6.7</td>
<td>26.7</td>
<td>46.7</td>
<td>17.8</td>
<td>2.2</td>
<td>33.4</td>
<td>20</td>
</tr>
<tr>
<td>2. I am motivated to participate in online group critique during the class.</td>
<td>8.9</td>
<td>26.7</td>
<td>37.8</td>
<td>20</td>
<td>6.7</td>
<td>35.6</td>
<td>26.7</td>
</tr>
<tr>
<td>3. I am engaged in online group critique in the classroom.</td>
<td>13.3</td>
<td>62.2</td>
<td>15.6</td>
<td>8.9</td>
<td>0</td>
<td>75.5</td>
<td>8.9</td>
</tr>
</tbody>
</table>
4. The discussions are on-topic in online group critique in the classroom.
   | SA | A  | N  | D  | SD | Pos | Neg |
   | 11.1 | 60 | 24.4 | 4.4 | 0 | 71.1 | 4.4 |

5. I collaboratively construct meaning with others through online group critique in the classroom.
   | 6.7 | 44.4 | 37.8 | 11.1 | 0 | 51.1 | 11.1 |

6. I brainstorm many thoughts or ideas during online group critique in the classroom.
   | 11.1 | 44.4 | 35.6 | 6.7 | 2.2 | 55.5 | 8.9 |

7. I gain many opportunities to elaborate my thoughts or ideas.
   | 6.7 | 46.7 | 40 | 6.7 | 0 | 53.4 | 6.7 |

8. I gain individual reflection on the topic in online group critique in the classroom.
   | 13.3 | 51.1 | 26.7 | 8.9 | 0 | 64.4 | 8.9 |

9. I gain individual reflection on others’ ideas in online group critique in the classroom.
   | 8.9 | 46.7 | 33.3 | 11.1 | 0 | 55.6 | 11.1 |

10. I give comments to others’ opinions in online group critique in the classroom.
    | 6.7 | 37.8 | 46.7 | 8.9 | 0 | 44.5 | 8.9 |

11. Discussions in limited time frame in class make me learn effectively.
    | 6.7 | 28.9 | 48.9 | 15.6 | 0 | 35.6 | 15.6 |

Please comment on any of the above
S5: The class went effectively within a given time.

III. What do you think about online group critique after class?

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
<th>Pos</th>
<th>Neg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am satisfied with online group critique after class.</td>
<td>11.1</td>
<td>15.6</td>
<td>44.4</td>
<td>26.7</td>
<td>2.2</td>
<td>26.7</td>
<td>28.9</td>
</tr>
<tr>
<td>2. I am motivated to participate in online group critique after the class time.</td>
<td>11.1</td>
<td>13.3</td>
<td>31.1</td>
<td>42.2</td>
<td>2.2</td>
<td>24.4</td>
<td>44.4</td>
</tr>
<tr>
<td>3. I am engaged in online group critique after class.</td>
<td>11.1</td>
<td>33.3</td>
<td>35.6</td>
<td>17.8</td>
<td>2.2</td>
<td>44.4</td>
<td>20</td>
</tr>
<tr>
<td>4. The discussions are on-topic in online group critique after class.</td>
<td>8.9</td>
<td>55.6</td>
<td>31.1</td>
<td>4.4</td>
<td>0</td>
<td>64.5</td>
<td>4.4</td>
</tr>
<tr>
<td>5. I collaboratively construct meaning with others through online group critique after class.</td>
<td>6.7</td>
<td>26.7</td>
<td>53.3</td>
<td>11.1</td>
<td>2.2</td>
<td>33.4</td>
<td>13.3</td>
</tr>
<tr>
<td>6. I brainstorm many thoughts or ideas through online group critique after class.</td>
<td>6.7</td>
<td>31.1</td>
<td>44.4</td>
<td>15.6</td>
<td>2.2</td>
<td>37.8</td>
<td>17.8</td>
</tr>
<tr>
<td>7. I gain many opportunities to elaborate my thoughts or ideas.</td>
<td>13.3</td>
<td>35.6</td>
<td>33.3</td>
<td>15.6</td>
<td>2.2</td>
<td>48.9</td>
<td>17.8</td>
</tr>
<tr>
<td>8. I gain individual reflection on the topic in online group critique after class.</td>
<td>8.9</td>
<td>37.8</td>
<td>37.8</td>
<td>13.3</td>
<td>2.2</td>
<td>46.7</td>
<td>15.5</td>
</tr>
<tr>
<td>9. I gain individual reflection on others’ ideas in online group critique after class.</td>
<td>6.7</td>
<td>37.8</td>
<td>35.6</td>
<td>17.8</td>
<td>2.2</td>
<td>44.5</td>
<td>20</td>
</tr>
<tr>
<td>10. I give comments to others’ opinions in online group critique after class.</td>
<td>4.4</td>
<td>28.9</td>
<td>53.3</td>
<td>11.1</td>
<td>2.2</td>
<td>33.3</td>
<td>13.3</td>
</tr>
<tr>
<td>11. Flexible discussions with my own time and pace after class make me learn effectively.</td>
<td>13.6</td>
<td>29.5</td>
<td>34.1</td>
<td>18.2</td>
<td>4.5</td>
<td>43.1</td>
<td>22.7</td>
</tr>
</tbody>
</table>

Please comment on any of the above
S2: I did part time work so I didn’t have spare time to participate in the discussion after class. The new method was also more complicated than traditional one. Thus, I don’t have any suggestion.
S5: Online group critique allowed me to interact more deeply with some mates from cross group.
IV. What do you overall think about this blended learning?

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
<th>Pos</th>
<th>Neg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overall, I am satisfied with this blended mode of discussions for English learning.</td>
<td>6.7</td>
<td>40</td>
<td>35.6</td>
<td>15.6</td>
<td>2.2</td>
<td>46.7</td>
<td>17.8</td>
</tr>
<tr>
<td>2. I develop an interest to participate in this blended learning.</td>
<td>6.7</td>
<td>31.1</td>
<td>44.4</td>
<td>13.3</td>
<td>4.4</td>
<td>37.8</td>
<td>17.7</td>
</tr>
<tr>
<td>3. I am engaged in this blended learning.</td>
<td>13.3</td>
<td>48.9</td>
<td>26.7</td>
<td>8.9</td>
<td>0</td>
<td>62.2</td>
<td>8.9</td>
</tr>
<tr>
<td>4. Having done the discussion in the small group, I find it really prepared me giving comments to show how I agree or disagree with others' opinions during online group critique.</td>
<td>6.7</td>
<td>48.9</td>
<td>40</td>
<td>4.4</td>
<td>0</td>
<td>55.6</td>
<td>4.4</td>
</tr>
<tr>
<td>5. Having done the in-class online group critique, I learn to apply more discussion skills to interact with others during off-class online group critique.</td>
<td>6.7</td>
<td>42.2</td>
<td>31.1</td>
<td>17.8</td>
<td>2.2</td>
<td>48.9</td>
<td>20</td>
</tr>
<tr>
<td>6. Having done the off-class online group critique, I learn to think critically during in-class online group critique.</td>
<td>11.1</td>
<td>40</td>
<td>37.8</td>
<td>11.1</td>
<td>0</td>
<td>51.1</td>
<td>11.1</td>
</tr>
<tr>
<td>7. Learning is meaningful through collaborative construction of meaning in this blended learning.</td>
<td>6.7</td>
<td>57.8</td>
<td>26.7</td>
<td>6.7</td>
<td>2.2</td>
<td>64.5</td>
<td>8.9</td>
</tr>
<tr>
<td>8. The blended learning improves my retention better.</td>
<td>4.4</td>
<td>33.3</td>
<td>48.9</td>
<td>11.1</td>
<td>2.2</td>
<td>37.7</td>
<td>13.3</td>
</tr>
<tr>
<td>9. I learn effectively through this blended learning.</td>
<td>4.4</td>
<td>35.6</td>
<td>42.2</td>
<td>17.8</td>
<td>0</td>
<td>40</td>
<td>17.8</td>
</tr>
<tr>
<td>10. The blended learning helps me to evaluate my own learning.</td>
<td>8.9</td>
<td>40</td>
<td>42.2</td>
<td>8.9</td>
<td>0</td>
<td>48.9</td>
<td>8.9</td>
</tr>
<tr>
<td>11. The blended learning improves my learning outcomes.</td>
<td>6.7</td>
<td>28.9</td>
<td>51.1</td>
<td>13.3</td>
<td>0</td>
<td>35.6</td>
<td>13.3</td>
</tr>
<tr>
<td>12. It is appropriate to integrate online discussion into English course as mandatory activity.</td>
<td>6.7</td>
<td>44.4</td>
<td>37.8</td>
<td>6.7</td>
<td>4.4</td>
<td>51.1</td>
<td>11.1</td>
</tr>
<tr>
<td>13. There should be more English courses like this.</td>
<td>15.6</td>
<td>17.8</td>
<td>51.1</td>
<td>13.3</td>
<td>2.2</td>
<td>33.4</td>
<td>15.5</td>
</tr>
</tbody>
</table>

Please comment on any of the above

S1: I felt that this new mode of learning is not suitable for me.
S2: I am not familiar with this new learning method as well as the language use. I don’t have any comments. But I think the discussions helped increase my writing skill.
S4: Some questions were out of the scope of our knowledge.
S5: Discussed questions promoted thoughts.
S6: At times the questions were difficult to do myself but when we discussed with the peers it became a lot easier.
S7: In the beginning the discussed questions seemed okay but in the end it got harder. I think the discussion questions were well designed which promoted thinking and understanding of the content discussed. But sometimes when it came to list out the pros and cons. It was a bit compressed task due to the limited time.
S18: In the process I learnt to express myself directly in English language.
S38: The effectiveness of learning dropped.
A3: Through discussion improved thinking processing skill but helped very little with English language skill.
A4: Though the new teaching method was an idea, it was not common in Taiwan. I think it can be done much more.
A6: Each week discussion was rather difficult to come to a conclusion without discussing with the group.
A8: Involved in Group 3 discussion each week, I found it quite meaningful and interesting.
V. What do you perceive the interaction and participation in this blended learning environment, compared to traditional F2F classroom learning?

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
<th>Pos</th>
<th>Neg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have more participation in the discussions.</td>
<td>8.9</td>
<td>55.6</td>
<td>24.4</td>
<td>8.9</td>
<td>2.2</td>
<td>64.5</td>
<td>11.1</td>
</tr>
<tr>
<td>2. I ask to seek information or request an answer more.</td>
<td>8.9</td>
<td>48.9</td>
<td>28.9</td>
<td>11.1</td>
<td>2.2</td>
<td>57.8</td>
<td>13.3</td>
</tr>
<tr>
<td>3. I inquire or start a dialogue more.</td>
<td>8.9</td>
<td>46.7</td>
<td>31.1</td>
<td>11.1</td>
<td>2.2</td>
<td>55.6</td>
<td>13.3</td>
</tr>
<tr>
<td>4. I provide answers to information-seeking questions more.</td>
<td>8.9</td>
<td>51.1</td>
<td>26.7</td>
<td>11.1</td>
<td>2.2</td>
<td>60</td>
<td>23.3</td>
</tr>
<tr>
<td>5. I share information more.</td>
<td>4.4</td>
<td>51.1</td>
<td>35.6</td>
<td>8.9</td>
<td>0</td>
<td>55.5</td>
<td>8.9</td>
</tr>
<tr>
<td>6. I elaborate, exchange, and express ideas or thoughts more.</td>
<td>8.9</td>
<td>40</td>
<td>37.8</td>
<td>13.3</td>
<td>0</td>
<td>48.9</td>
<td>13.3</td>
</tr>
<tr>
<td>7. I give comments to show how I agree or disagree with others’ opinions more.</td>
<td>11.1</td>
<td>42.2</td>
<td>37.8</td>
<td>8.9</td>
<td>0</td>
<td>53.3</td>
<td>8.9</td>
</tr>
<tr>
<td>8. I give comments to evaluate our learning in class more.</td>
<td>8.9</td>
<td>42.2</td>
<td>40</td>
<td>8.9</td>
<td>0</td>
<td>51.1</td>
<td>8.9</td>
</tr>
<tr>
<td>9. I provide guidance and suggestions to others more.</td>
<td>8.9</td>
<td>20</td>
<td>55.6</td>
<td>15.6</td>
<td>0</td>
<td>28.9</td>
<td>15.6</td>
</tr>
<tr>
<td>10. I have more interaction with the instructor through the blended mode of discussions.</td>
<td>2.2</td>
<td>37.8</td>
<td>40</td>
<td>15.6</td>
<td>4.4</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>11. I have more interaction with my group members through the blended mode of discussions.</td>
<td>6.7</td>
<td>62.2</td>
<td>22.2</td>
<td>8.9</td>
<td>0</td>
<td>68.9</td>
<td>8.9</td>
</tr>
<tr>
<td>12. I have more interaction with students from other groups through the blended mode of discussions.</td>
<td>2.2</td>
<td>53.3</td>
<td>33.3</td>
<td>11.1</td>
<td>0</td>
<td>55.5</td>
<td>11.1</td>
</tr>
<tr>
<td>13. This blended mode of discussions is more learner-centred.</td>
<td>11.1</td>
<td>46.7</td>
<td>33.3</td>
<td>8.9</td>
<td>0</td>
<td>57.8</td>
<td>8.9</td>
</tr>
<tr>
<td>14. The interaction is more meaningful.</td>
<td>8.9</td>
<td>46.7</td>
<td>33.3</td>
<td>8.9</td>
<td>2.2</td>
<td>55.6</td>
<td>11.1</td>
</tr>
</tbody>
</table>

Please comment on any of the above

S2: I wanted to involve in the discussion because those discussed questions related to our daily life. But I am unable to use English language to express my thoughts. I wasn’t tire of it because I can still learn something out of it.

A10: Blended learning was done in a virtual class platform which seemed to be out of reality.

VI. How does this blended mode of learning improve your language competence?

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
<th>Pos</th>
<th>Neg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It improves my understanding of vocabulary.</td>
<td>13.3</td>
<td>51.1</td>
<td>28.9</td>
<td>6.7</td>
<td>0</td>
<td>64.4</td>
<td>6.7</td>
</tr>
<tr>
<td>2. It improves my understanding of grammar.</td>
<td>11.1</td>
<td>31.1</td>
<td>51.1</td>
<td>6.7</td>
<td>0</td>
<td>42.2</td>
<td>6.7</td>
</tr>
<tr>
<td>3. It improves my understanding of sentence structures.</td>
<td>11.1</td>
<td>37.8</td>
<td>37.8</td>
<td>13.3</td>
<td>0</td>
<td>48.9</td>
<td>13.3</td>
</tr>
<tr>
<td>4. It raises my awareness of language use.</td>
<td>11.1</td>
<td>48.9</td>
<td>33.3</td>
<td>6.7</td>
<td>0</td>
<td>60</td>
<td>6.7</td>
</tr>
<tr>
<td>5. I construct more language knowledge by text-based online discussion.</td>
<td>11.1</td>
<td>55.6</td>
<td>24.4</td>
<td>8.9</td>
<td>0</td>
<td>66.7</td>
<td>8.9</td>
</tr>
<tr>
<td>6. It improves my reading comprehension.</td>
<td>11.1</td>
<td>53.3</td>
<td>28.9</td>
<td>6.7</td>
<td>0</td>
<td>64.4</td>
<td>6.7</td>
</tr>
<tr>
<td>7. It improves my understanding of subject matters.</td>
<td>4.4</td>
<td>48.9</td>
<td>42.2</td>
<td>4.4</td>
<td>0</td>
<td>53.3</td>
<td>4.4</td>
</tr>
<tr>
<td>8. I construct more content knowledge by text-based online</td>
<td>13.3</td>
<td>51.1</td>
<td>31.1</td>
<td>4.4</td>
<td>0</td>
<td>64.4</td>
<td>4.4</td>
</tr>
</tbody>
</table>
Appendices

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
<th>Pos</th>
<th>Neg</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. It also improves my English writing competence.</td>
<td>4.4</td>
<td>51.1</td>
<td>37.8</td>
<td>6.7</td>
<td>0</td>
<td>55.5</td>
<td>6.7</td>
</tr>
<tr>
<td>10. I can produce more lexically denser written English.</td>
<td>4.4</td>
<td>48.9</td>
<td>37.8</td>
<td>8.9</td>
<td>0</td>
<td>53.3</td>
<td>8.9</td>
</tr>
<tr>
<td>11. I can produce more syntactically complex written English.</td>
<td>0</td>
<td>24.4</td>
<td>55.6</td>
<td>20</td>
<td>0</td>
<td>24.4</td>
<td>20</td>
</tr>
</tbody>
</table>

Please comment on any of the above
A1: My language skill seems to improve a great deal.
A10: I thought for the language learning, real hand written improved my impression more. It had less improvement if majority of classmates read the contents translated from Google translate.

VII. What do you think may influence you in learning in the blended mode of discussions?

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
<th>Pos</th>
<th>Neg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prior knowledge</td>
<td>20</td>
<td>55.6</td>
<td>20</td>
<td>4.4</td>
<td>0</td>
<td>75.6</td>
<td>4.4</td>
</tr>
<tr>
<td>2. Prior learning experiences</td>
<td>13.3</td>
<td>62.2</td>
<td>17.8</td>
<td>6.7</td>
<td>0</td>
<td>75.5</td>
<td>6.7</td>
</tr>
<tr>
<td>3. Immediate feedback through F2F interaction</td>
<td>11.1</td>
<td>48.9</td>
<td>37.8</td>
<td>2.2</td>
<td>0</td>
<td>60</td>
<td>2.2</td>
</tr>
<tr>
<td>4. Text-based online discussion for deeper reflections</td>
<td>11.4</td>
<td>43.2</td>
<td>40.9</td>
<td>4.5</td>
<td>0</td>
<td>54.6</td>
<td>4.5</td>
</tr>
<tr>
<td>5. Mandatory nature of online discussion</td>
<td>17.8</td>
<td>53.3</td>
<td>22.2</td>
<td>6.7</td>
<td>0</td>
<td>71.1</td>
<td>6.7</td>
</tr>
<tr>
<td>6. The design of learning activities</td>
<td>11.1</td>
<td>48.9</td>
<td>33.3</td>
<td>6.7</td>
<td>0</td>
<td>60</td>
<td>6.7</td>
</tr>
<tr>
<td>7. The time length for activities</td>
<td>20</td>
<td>33.3</td>
<td>35.6</td>
<td>8.9</td>
<td>2.2</td>
<td>53.3</td>
<td>11.1</td>
</tr>
<tr>
<td>8. The types of discussed questions</td>
<td>17.8</td>
<td>48.9</td>
<td>28.9</td>
<td>4.4</td>
<td>0</td>
<td>66.7</td>
<td>4.4</td>
</tr>
<tr>
<td>9. The instructor’s participation &amp; involvement</td>
<td>6.7</td>
<td>48.9</td>
<td>31.1</td>
<td>8.9</td>
<td>4.4</td>
<td>55.6</td>
<td>13.3</td>
</tr>
<tr>
<td>10. Appropriate guidance &amp; instruction</td>
<td>11.1</td>
<td>62.2</td>
<td>22.2</td>
<td>4.4</td>
<td>0</td>
<td>73.3</td>
<td>4.4</td>
</tr>
<tr>
<td>11. Learner-centred environment</td>
<td>11.1</td>
<td>51.1</td>
<td>33.3</td>
<td>4.4</td>
<td>0</td>
<td>62.2</td>
<td>4.4</td>
</tr>
<tr>
<td>12. Familiarity with other participators</td>
<td>11.1</td>
<td>48.9</td>
<td>28.9</td>
<td>8.9</td>
<td>2.2</td>
<td>60</td>
<td>11.1</td>
</tr>
</tbody>
</table>

Please comment on any of the above
S1: I could feel that the teachers were putting lots of effort in the teaching tasks.
Appendix 26 Themes Analysis of Survey Questionnaire

Discussion tasks

<table>
<thead>
<tr>
<th>The sequence of tasks</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Having done the discussion in the small group, I find it really prepared me giving comments to show how I agree or disagree with others’ opinions during online group critique.</td>
<td>56</td>
<td>40</td>
<td>4</td>
</tr>
<tr>
<td>2. Having done the in-class online group critique, I learn to apply more discussion skills to interact with others during off-class online group critique.</td>
<td>49</td>
<td>31</td>
<td>20</td>
</tr>
<tr>
<td>3. Having done the off-class online group critique, I learn to think critically during in-class online group critique.</td>
<td>51</td>
<td>38</td>
<td>11</td>
</tr>
</tbody>
</table>

Task preferences

<table>
<thead>
<tr>
<th></th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. I develop an interest to participate in this blended learning.</td>
<td>38</td>
<td>44</td>
<td>18</td>
</tr>
<tr>
<td>5. It motivates me to participate in the blended mode of small group discussion.</td>
<td>40</td>
<td>47</td>
<td>13</td>
</tr>
<tr>
<td>6. I am motivated to participate in online group critique during the class.</td>
<td>35</td>
<td>38</td>
<td>27</td>
</tr>
<tr>
<td>7. I am motivated to participate in online group critique after the class time.</td>
<td>25</td>
<td>31</td>
<td>44</td>
</tr>
<tr>
<td>8. Overall, I am satisfied with this blended mode of discussions for English learning.</td>
<td>47</td>
<td>35</td>
<td>18</td>
</tr>
<tr>
<td>9. I am satisfied with integrating online discussion into face-to-face small group discussion.</td>
<td>51</td>
<td>29</td>
<td>20</td>
</tr>
<tr>
<td>10. I am satisfied with online group critique in the classroom.</td>
<td>33</td>
<td>47</td>
<td>20</td>
</tr>
<tr>
<td>11. I am satisfied with online group critique after class.</td>
<td>27</td>
<td>44</td>
<td>29</td>
</tr>
<tr>
<td>12. I am engaged in this blended learning.</td>
<td>64</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td>13. I am engaged in the small group discussion.</td>
<td>62</td>
<td>36</td>
<td>2</td>
</tr>
<tr>
<td>14. I am engaged in online group critique in the classroom.</td>
<td>75</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>15. I am engaged in online group critique after class.</td>
<td>44</td>
<td>36</td>
<td>20</td>
</tr>
</tbody>
</table>

Other comments

Bin: I found weekly small group discussion meaningful and interesting.
Yuzhi: Small group discussions were interesting and not bored when interaction among members became more frequent.
Zheng: I wanted to involve in the discussion because those discussion topics related to my life. But I was unable to interpret my thoughts in English. I was not tired of discussions because I learnt something out of them.
Ting: I felt that this new mode of learning was not suitable for me.
Ma: Blended discussions were performed in a virtual environment which seemed to be out of reality.
Zheng: I took part time jobs so I did not have spare time to participate in the discussions after class. This new method was also more complicated than traditional one. Thus, I did not have any suggestions.
Dong: Any type of discussion was alright for me.

* N=45, Pos=Positive response, N=Neutral response, Neg=Negative response
* Percentages are rounded to nearest whole number

Text and content

<table>
<thead>
<tr>
<th>Text - construction of meaning</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Learning is meaningful through collaborative construction of meaning in this blended learning.</td>
<td>64</td>
<td>27</td>
<td>9</td>
</tr>
</tbody>
</table>
2. Online discussion promotes collaboration for meaning construction in face-to-face small group discussion.
3. I collaboratively construct meaning with others through online group critique in the classroom.
4. I collaboratively construct meaning with others through online group critique after class.

<table>
<thead>
<tr>
<th>Content – construction of knowledge</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. I construct more content knowledge by text-based online discussion.</td>
<td>65</td>
<td>31</td>
<td>4</td>
</tr>
<tr>
<td>6. It improves my understanding of subject matters.</td>
<td>53</td>
<td>42</td>
<td>5</td>
</tr>
</tbody>
</table>

* N=45, Pos=Positive response, N=Neutral response, Neg=Negative response

*Percentages are rounded to nearest whole number

### Thinking competency

#### On-topic

<table>
<thead>
<tr>
<th>On-topic</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The discussions are more on-topic than in purely face-to-face small group discussion.</td>
<td>53</td>
<td>31</td>
<td>16</td>
</tr>
<tr>
<td>2. The discussions are on-topic in online group critique in the classroom.</td>
<td>71</td>
<td>25</td>
<td>4</td>
</tr>
<tr>
<td>3. The discussions are on-topic in online group critique after class.</td>
<td>65</td>
<td>31</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Individual reflection

<table>
<thead>
<tr>
<th>Individual reflection</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. With the help of online discussion, I gain individual reflection on the topic in small group discussion.</td>
<td>58</td>
<td>33</td>
<td>9</td>
</tr>
<tr>
<td>5. With the help of online discussion, I gain individual reflection on others’ opinions in small group discussion.</td>
<td>53</td>
<td>36</td>
<td>11</td>
</tr>
<tr>
<td>6. I gain individual reflection on the topic in online group critique in the classroom.</td>
<td>64</td>
<td>27</td>
<td>9</td>
</tr>
<tr>
<td>7. I gain individual reflection on others’ ideas in online group critique in the classroom.</td>
<td>56</td>
<td>33</td>
<td>11</td>
</tr>
<tr>
<td>8. I gain individual reflection on the topic in online group critique after class.</td>
<td>47</td>
<td>38</td>
<td>15</td>
</tr>
<tr>
<td>9. I gain individual reflection on others’ ideas in online group critique after class.</td>
<td>44</td>
<td>36</td>
<td>20</td>
</tr>
</tbody>
</table>

#### Brainstorming

<table>
<thead>
<tr>
<th>Brainstorming</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Face-to-face oral discussion helps me brainstorm more thoughts or ideas during small group discussion.</td>
<td>64</td>
<td>29</td>
<td>7</td>
</tr>
<tr>
<td>11. I brainstorm many thoughts or ideas during online group critique in the classroom.</td>
<td>56</td>
<td>35</td>
<td>9</td>
</tr>
<tr>
<td>12. I brainstorm many thoughts or ideas through online group critique after class.</td>
<td>38</td>
<td>44</td>
<td>18</td>
</tr>
</tbody>
</table>

**Other comments**

Lee: I have improved my thinking processing skill through discussion, but helped very little with English language skill.

* N=45, Pos=Positive response, N=Neutral response, Neg=Negative response

*Percentages are rounded to nearest whole number

### Language gains

#### Language competence and knowledge

<table>
<thead>
<tr>
<th>Language competence and knowledge</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The blended learning improves my retention better.</td>
<td>38</td>
<td>49</td>
<td>13</td>
</tr>
</tbody>
</table>

* N=45, Pos=Positive response, N=Neutral response, Neg=Negative response

*Percentages are rounded to nearest whole number
2. It improves my understanding of vocabulary. 64 29 7
3. It improves my understanding of grammar. 42 51 7
4. It improves my understanding of sentence structures. 49 38 13
5. It raises my awareness of language use. 60 33 7
6. I construct more language knowledge by text-based online discussion. 67 24 9
7. It improves my reading comprehension. 64 29 7
8. It also improves my English writing competence. 55 38 7
9. I can produce more lexically denser written English. 53 38 9
10. I can produce more syntactically complex written English. 24 56 20

Other comments

Jing: I learnt to express my thoughts directly in English in discussions.
Zheng: I did not have any comments because I was not familiar with this new learning method. Although my English ability was not good, but the discussions helped increase my writing skill.
Yeh: My language skills seemed to improve greatly.
Ma: In terms of language learning, hand-writing much improved my impression. It resulted in short-term retention if most students relied much on web-translation.

* N=45, Pos=Positive response, N=Neutral response, Neg=Negative response
*Percentages are rounded to nearest whole number

Modes of communication

<table>
<thead>
<tr>
<th>Face-to-face communication</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I often used face-to-face discussion to seek guidance and information.</td>
<td>67</td>
<td>31</td>
<td>2</td>
</tr>
<tr>
<td>2. Face-to-face discussion helps me have a better direction of discussion during online discussion.</td>
<td>64.4</td>
<td>22.2</td>
<td>11.1</td>
</tr>
<tr>
<td>3. Face-to-face discussion helps me better understand online text to compose my online postings.</td>
<td>67</td>
<td>31</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Online communication</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. I often used online discussion to express my opinions.</td>
<td>71</td>
<td>27</td>
<td>2</td>
</tr>
<tr>
<td>5. I ask to seek information or request an answer more in online discussion.</td>
<td>58</td>
<td>29</td>
<td>13</td>
</tr>
<tr>
<td>6. I inquire or start a dialogue more in online discussion.</td>
<td>56</td>
<td>31</td>
<td>13</td>
</tr>
<tr>
<td>7. I provide answers to information-seeking questions more in online discussion.</td>
<td>60</td>
<td>27</td>
<td>23</td>
</tr>
<tr>
<td>8. I share information more in online discussion.</td>
<td>55</td>
<td>36</td>
<td>9</td>
</tr>
<tr>
<td>9. I give comments to show how I agree or disagree with others’ opinions more in online discussion.</td>
<td>53</td>
<td>38</td>
<td>9</td>
</tr>
<tr>
<td>10. I give comments to others’ opinions in online group critique in the class in online discussion.</td>
<td>44</td>
<td>47</td>
<td>9</td>
</tr>
<tr>
<td>11. I give comments to others’ opinions in online group critique after class in online discussion.</td>
<td>34</td>
<td>53</td>
<td>13</td>
</tr>
<tr>
<td>12. I give comments to evaluate our learning in class more in online discussion.</td>
<td>51</td>
<td>40</td>
<td>9</td>
</tr>
<tr>
<td>13. I elaborate, exchange, and express ideas or thoughts more in online discussion.</td>
<td>49</td>
<td>38</td>
<td>13</td>
</tr>
<tr>
<td>14. I gain many opportunities to elaborate my thoughts or ideas in online group critique in the class in online discussion.</td>
<td>53</td>
<td>40</td>
<td>7</td>
</tr>
</tbody>
</table>
15. I gain many opportunities to elaborate my thoughts or ideas in online
group critique after class in online discussion.  
16. I provide guidance and suggestions to others more in online discussion.  

<table>
<thead>
<tr>
<th>Interaction and participation</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have more participation in the discussions.</td>
<td>65</td>
<td>24</td>
<td>11</td>
</tr>
<tr>
<td>2. I have more interaction with the instructor through the blended mode of discussions.</td>
<td>40</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>3. I have more interaction with my group members through the blended mode of discussions.</td>
<td>69</td>
<td>22</td>
<td>9</td>
</tr>
<tr>
<td>4. I have more interaction with students from other groups through the blended mode of discussions.</td>
<td>56</td>
<td>33</td>
<td>11</td>
</tr>
<tr>
<td>5. This blended mode of discussions is more learner-centred.</td>
<td>58</td>
<td>33</td>
<td>9</td>
</tr>
<tr>
<td>6. The interaction is more meaningful.</td>
<td>56</td>
<td>33</td>
<td>11</td>
</tr>
</tbody>
</table>

**Other comments**

Dong: Online group critique allowed me to have more profound interaction with members of other groups.
Sher: Weekly small group discussions were rather difficult to have a conclusion without brainstorming with the group members.

<table>
<thead>
<tr>
<th>Learning effectiveness</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I learn effectively through this blended learning.</td>
<td>40</td>
<td>42</td>
<td>18</td>
</tr>
<tr>
<td>2. Discussions in limited time frame in class make me learn effectively.</td>
<td>36</td>
<td>49</td>
<td>15</td>
</tr>
<tr>
<td>3. Flexible discussions with my own time and pace after class make me learn effectively.</td>
<td>43</td>
<td>34</td>
<td>23</td>
</tr>
<tr>
<td>4. The blended learning helps me to evaluate my own learning.</td>
<td>49</td>
<td>42</td>
<td>9</td>
</tr>
<tr>
<td>5. The blended learning improves my learning outcomes.</td>
<td>36</td>
<td>51</td>
<td>13</td>
</tr>
<tr>
<td>6. It is appropriate to integrate online discussion into English course as mandatory activity.</td>
<td>51</td>
<td>38</td>
<td>11</td>
</tr>
<tr>
<td>7. There should be more English courses like this.</td>
<td>33</td>
<td>51</td>
<td>16</td>
</tr>
</tbody>
</table>

**Open-ended Question**

Feng: The effectiveness of learning dropped.
Liu: Some group members merely participated to pass the subject and did not truthfully involve in the discussions. This resulted in poor discussion progress in small group.
Dong: The discussions in group critique went effectively with a given time when performed inside classroom.
Boyu: Although this new teaching method was innovative, it was not common in Taiwan. I think it can be done much more.

* N=45, Pos=Positive response, N=Neutral response, Neg=Negative response
* Percentages are rounded to nearest whole number
## Predetermined factors

<table>
<thead>
<tr>
<th>Curriculum factors</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prior knowledge</td>
<td>76</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>2. Appropriate guidance &amp; instruction</td>
<td>73</td>
<td>22</td>
<td>5</td>
</tr>
<tr>
<td>3. Mandatory nature of online discussion</td>
<td>71</td>
<td>22</td>
<td>7</td>
</tr>
<tr>
<td>4. The types of discussion questions</td>
<td>67</td>
<td>29</td>
<td>4</td>
</tr>
<tr>
<td>5. The design of learning tasks</td>
<td>60</td>
<td>33</td>
<td>7</td>
</tr>
<tr>
<td>6. The instructor’s participation &amp; involvement</td>
<td>56</td>
<td>31</td>
<td>13</td>
</tr>
<tr>
<td>7. The time length for tasks</td>
<td>53</td>
<td>36</td>
<td>11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental factors</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Prior experiences</td>
<td>75</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td>9. Learner-centred environment</td>
<td>62</td>
<td>33</td>
<td>5</td>
</tr>
<tr>
<td>10. Immediate feedback through FTF interaction</td>
<td>60</td>
<td>38</td>
<td>2</td>
</tr>
<tr>
<td>11. Text-based online discussion for deeper reflections</td>
<td>55</td>
<td>41</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Affective factors</th>
<th>Pos%</th>
<th>N%</th>
<th>Neg%</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. Familiarity with other participants</td>
<td>60</td>
<td>29</td>
<td>11</td>
</tr>
</tbody>
</table>

### Other comments

Kan: Some questions were out of the scope of our knowledge.

Dong: Discussed questions promoted thoughts.

Ijing: At times the questions were difficult to do myself but when we discussed with group members it became a lot easier.

Qaoyu: I think the discussion questions were well designed to promote thinking and understanding of the content discussed. The former discussion questions were not difficult but the latter questions got harder. I feel compressed when being asked to list out the pros and cons in restricted time frame.

* N=45, Pos=Positive response, N=Neutral response, Neg=Negative response
* The comments are direct quotes translated from the respondents’ Chinese words.
* Percentages are rounded to nearest whole number