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An Exploration of Social Interaction and Vocabulary Appropriation Among Advanced Adult ESL Learners Engaged in aThreaded Discussion Forum

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AN EXPLORATION OF SOCIAL INTERACTION AND VOCABULARY APPROPRIATION AMONG ADVANCED ADULT ESL LEARNERS ENGAGED IN A THREADED DISCUSSION FORUM

By

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Tables</td>
<td>ix</td>
</tr>
<tr>
<td>List of Figures</td>
<td>xi</td>
</tr>
<tr>
<td>List of Examples</td>
<td>xii</td>
</tr>
<tr>
<td>Abstract</td>
<td>xiv</td>
</tr>
<tr>
<td>CHAPTER ONE   INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>The Statement of the Problem</td>
<td>1</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>3</td>
</tr>
<tr>
<td>Research Questions</td>
<td>3</td>
</tr>
<tr>
<td>Theoretical Framework</td>
<td>5</td>
</tr>
<tr>
<td>The Nature of Interaction in CMC</td>
<td>5</td>
</tr>
<tr>
<td>Sociocultural Theory</td>
<td>6</td>
</tr>
<tr>
<td>Word Meaning in Communication</td>
<td>7</td>
</tr>
<tr>
<td>Methodology</td>
<td>8</td>
</tr>
<tr>
<td>Significance of the Study</td>
<td>10</td>
</tr>
<tr>
<td>Limitations of the Study</td>
<td>11</td>
</tr>
<tr>
<td>Organization of the Dissertation</td>
<td>12</td>
</tr>
<tr>
<td>Definitions</td>
<td>12</td>
</tr>
<tr>
<td>CHAPTER TWO   LITERATURE REVIEW</td>
<td>14</td>
</tr>
<tr>
<td>Collaborative CMC</td>
<td>14</td>
</tr>
<tr>
<td>Communities of Interdependence and Socialization</td>
<td>14</td>
</tr>
<tr>
<td>The Role of the Teacher</td>
<td>15</td>
</tr>
<tr>
<td>The Role of the Students</td>
<td>16</td>
</tr>
<tr>
<td>Advantages of Collaborative CMC</td>
<td>17</td>
</tr>
<tr>
<td>Disadvantages of Collaborative CMC</td>
<td>19</td>
</tr>
<tr>
<td>A Comparison of Synchronous and Asynchronous CMC</td>
<td>20</td>
</tr>
<tr>
<td>CMC Studies in SLA</td>
<td>22</td>
</tr>
<tr>
<td>An Overview of CMC Studies in SLA</td>
<td>22</td>
</tr>
<tr>
<td>Synchronous CMC Studies in Learner Interaction</td>
<td>25</td>
</tr>
<tr>
<td>Asynchronous CMC Studies in Learner Interaction</td>
<td>28</td>
</tr>
<tr>
<td>Sociocultural Theory in Collaborative CMC</td>
<td>31</td>
</tr>
<tr>
<td>Scaffolding and Affordances</td>
<td>31</td>
</tr>
<tr>
<td>Intersubjectivity, Alterity, and Appropriation</td>
<td>34</td>
</tr>
<tr>
<td>Functional Dualism of Texts</td>
<td>38</td>
</tr>
<tr>
<td>Word Meaning in Communication</td>
<td>39</td>
</tr>
<tr>
<td>Word Meaning in SCT</td>
<td>40</td>
</tr>
<tr>
<td>Word Appropriation Strategy</td>
<td>42</td>
</tr>
<tr>
<td>Conclusion</td>
<td>44</td>
</tr>
</tbody>
</table>
CHAPTER THREE  METHODOLOGY

Introduction ................................................................. 45
Pilot Study ............................................................... 47
Research Design ............................................................ 53
Procedures for Data Collection and Preliminary Data Analysis .... 56
  Phase I: Pre-task Preparation ......................................... 56
  Phase II: Controversial Discussion in a Threaded Forum .... 59
  Phase III: Post-task Interviews ...................................... 62
Establishing Trustworthiness ........................................... 63
  Credibility ................................................................ 63
  Transferability .......................................................... 65
  Dependability ............................................................. 66
  Confirmability ........................................................... 66
  Credibility of the Researcher .......................................... 67
Formal Data Analysis ..................................................... 68
Research Question 1.0 Patterns of Social Interaction .......... 70
Research Question 1.1 Roles of Expert/Novice ................. 70
  Research Question 1.1.1 Initiators of Threads ................. 71
    Procedures for Obtaining Data ..................................... 71
    Procedures for Establishing Trustworthiness .................. 71
  Research Question 1.1.2 Providers of Argumentative Ideas  72
    Procedures for Obtaining Data ..................................... 72
    Procedures for Establishing Trustworthiness .................. 72
  Research Question 1.1.3 Word-Knowledge Participants .... 73
    Procedures for Obtaining Data ..................................... 73
    Procedures for Establishing Trustworthiness .................. 73
Research Question 1.2 Functions of the Postings ............ 74
    Procedures for Obtaining Data ..................................... 74
    Procedures for Establishing Trustworthiness .................. 78
Research Question 1.3 Multiples Voices ....................... 79
    Procedures for Obtaining Data ..................................... 80
    Procedures for Establishing Trustworthiness .................. 80
Research Question 2 Word Appropriation Strategies .......... 81
    Procedures for Obtaining data ..................................... 81
    Procedures for Establishing Trustworthiness .................. 84
Conclusion ................................................................... 84

CHAPTER FOUR  DATA ANALYSIS ...................................... 86

Introduction ................................................................. 86
Patterns of Social Interaction .......................................... 87
  Task I: Assisted Suicide ............................................... 88
  Roles of Expert/Novice in Task I ................................. 88
  An Overview of Task I: Assisted Suicide ....................... 89
LIST OF TABLES

2.1 A Comparison Between Synchronous and Asynchronous Modes............................... 20
2.2 Previous Studies........................................................................................................... 24
3.1 Task procedures, data collection, & preliminary data analysis.................................. 55
3.2 Codes of Functions of the Postings............................................................................. 75
3.3 WASs Employed for Developing Meanings of Unknown Words............................. 82
3.4 WASs Employed for Composing Responses.............................................................. 83
4.1 Threads and Initiated Messages Emerging in Task I................................................... 90
4.2 Individual Participants’ Contribution to Task I.......................................................... 99
4.3 Individual Participants’ Word Knowledge Regarding the Four Words....................... 101
4.4 Uses of Unknown Words in Task Engagement......................................................... 103
4.5 Codes of Functions of the Postings............................................................................. 106
4.6 The Functions of Postings for Argument in Task I.................................................... 107
4.7 Explicit Intersubjectivity Within One Group............................................................. 126
4.8 Implicit Intersubjectivity Within Group Members..................................................... 127
4.9 Partial Agreement for Intersubjectivity Between Groups........................................... 129
4.10 Evidence of Incorporation and Transformation between Groups Both Within and Across Thread in Task I............................................................... 131
4.11 Voices in Conflict for Meaning Construction of Unknown Words.......................... 134
4.12 Multivoicedness for Meaning Construction Across Threads..................................... 136
4.13 The Distribution of Threads in Task II...................................................................... 140
4.14 Roles of Participants Contributing to Completion of Task II..................................... 143
4.15 Individual Participants’ Word Knowledge Regarding the Four Words......................... 145
4.16 Uses of Unknown Words in Postings in Task II.................................................. 146
4.17 The Functions of the Postings in Task II............................................................... 149
4.18 Thread 2: Examples of Functions of Postings in Task II...................................... 150
4.19 A Comparison of Functions of the Postings Between Task I and Task II............... 153
4.20 Evidence of Incorporation and Transformation Between Groups Both Within and Across Threads in Task II............................................................................ 159
4.21 WASs in Task I and II............................................................................................ 164
4.22 WASs Used for Getting Meanings of Unknown Words in Each Task..................... 167
4.23 WASs Used for Responses Regarding Unknown Words in Each Task................... 171
# LIST OF FIGURES

3.1 An Example of a Thread ................................................................. 49

3.2 The Relationship of RQ #1 and RQ # 2 .......................................... 54

3.3 Procedures for Preliminary Data Analysis ................................. 69

3.4 Procedures for Formal Data Analysis ......................................... 70

4.1 Circumstances of Intersubjectivity ............................................. 123
<table>
<thead>
<tr>
<th>Example</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Example 1</td>
<td>108</td>
</tr>
<tr>
<td>2. Example 2</td>
<td>109</td>
</tr>
<tr>
<td>3. Example 3</td>
<td>109</td>
</tr>
<tr>
<td>4. Example 4</td>
<td>110</td>
</tr>
<tr>
<td>5. Example 5</td>
<td>110</td>
</tr>
<tr>
<td>6. Example 6</td>
<td>111</td>
</tr>
<tr>
<td>7. Example 7</td>
<td>111</td>
</tr>
<tr>
<td>8. Example 8</td>
<td>112</td>
</tr>
<tr>
<td>9. Example 9</td>
<td>113</td>
</tr>
<tr>
<td>10. Example 10</td>
<td>113</td>
</tr>
<tr>
<td>11. Example 11</td>
<td>114</td>
</tr>
<tr>
<td>12. Example 12</td>
<td>115</td>
</tr>
<tr>
<td>13. Example 13</td>
<td>115</td>
</tr>
<tr>
<td>14. Example 14</td>
<td>116</td>
</tr>
<tr>
<td>15. Example 15</td>
<td>117</td>
</tr>
<tr>
<td>16. Example 16</td>
<td>117</td>
</tr>
<tr>
<td>17. Example 17</td>
<td>118</td>
</tr>
<tr>
<td>18. Example 18</td>
<td>118</td>
</tr>
<tr>
<td>19. Example 19</td>
<td>118</td>
</tr>
<tr>
<td>20. Example 20</td>
<td>119</td>
</tr>
<tr>
<td>21. Example 21</td>
<td>119</td>
</tr>
<tr>
<td>Example 22</td>
<td>120</td>
</tr>
<tr>
<td>Example 23</td>
<td>121</td>
</tr>
<tr>
<td>Example 24</td>
<td>121</td>
</tr>
<tr>
<td>Example 25</td>
<td>121</td>
</tr>
<tr>
<td>Example 26</td>
<td>125</td>
</tr>
<tr>
<td>Example 27</td>
<td>152</td>
</tr>
<tr>
<td>Example 28</td>
<td>156</td>
</tr>
<tr>
<td>Example 29</td>
<td>156</td>
</tr>
<tr>
<td>Example 30</td>
<td>157</td>
</tr>
<tr>
<td>Example 31</td>
<td>158</td>
</tr>
</tbody>
</table>
ABSTRACT

A threaded discussion forum has been used in fully online or blended courses at institutions of higher education in the United States. However, how advanced adult ESL learners interact with peers collaboratively to complete assigned tasks is still uninvestigated. The aim of this study was to investigate social interaction emerging in a threaded discussion forum, particularly when adult ESL learners were assigned to argue about controversial issues. This study also investigated learners’ word appropriation strategies when encountering unknown words during task engagement.

Grounded in sociocultural theory, the study was conducted to investigate how adult ESL learners could benefit from postings by more capable peers and use text-based communication as thinking devices (Harasim, 1990; Lotman, 1988; 1990; vanLier, 2000; Warschauer, 1997; Wells, 2000) to complete the assigned tasks. The investigation regarding social interaction focused on three aspects: 1) the roles of expert and novice emerging during task engagement; 2) the functions of the postings composed to sustain arguments; and 3) multiple voices emerging in arguments for meaning construction.

Lotman’s (1988) notion of functional dualism of texts, Wertsch’s (1998; 2000) notion of interaction in social space, and Bakhtin’s (1979) notion of awareness of otherness were employed to analyze how multiple voices in texts illustrated the process of how participants borrowed, adopted, and transformed other voices into voices of their own.

The participants in the study were assigned to read two controversial articles about assisted suicide and the mandatory school uniform policy and then were divided into two groups to argue for or against the assigned topics. They were instructed to fill in a pre- and a post-task vocabulary knowledge scale to indicate their vocabulary knowledge from the assigned readings. After a preliminary analysis of the pre- and post-task vocabulary knowledge scale as well as posted messages, the researcher conducted post-task interviews with individual participants to clarify questions arising during the preliminary analysis.

Results of the study suggested that during task engagement the roles of expert and novice fluctuated, depending upon different circumstances. Individual participants were able to 1) initiate threads to start arguments; 2) provide arguments to transform the developing discussion into a new direction; and 3) embed words identified as unknown in
postings to provide contextual assistance for the novice to infer word meanings and compose responses. The analysis of the functions of the postings revealed that they served as dual functions for knowledge transmission as well as knowledge co-construction. Questions were embedded in postings for various purposes, especially for challenging rather than expecting answers, and uptake played a crucial role in engendering extended argument. Multiple voices in the threaded discussion allowed the participants opportunities to expand arguments as well as meaning construction regarding unknown words encountered during task engagement. With regard to word appropriation strategies to maintain the flow of interaction, the participants flexibly employed various strategies to infer word meanings before they were able to compose responses.
CHAPTER ONE
INTRODUCTION

The Statement of the Problem

In the year 2004, an increasing number of university courses are going online. According to the 2003 Sloan Survey of online learning, eighty-one percent of all institutions of higher education offer at least one fully online or blended course (Allen, Joyce, & Seaman, 2003). Among public institutions, the number of online courses are even more compelling, with 97 percent offering at least one online or blended course and 49 percent offering an online degree program. At the university where the present study was conducted, these findings apply. For example, four undergraduate courses were offered fully online in fall 1999, and there are now eighty such courses. The university began offering some fully online graduate degree programs in 1998, and currently there are nine online master’s programs with approximately ninety courses.

As the statistical information described above indicates, online education is a growing tendency at institutions of higher education in the United States. When taking online courses, adult ESL learners face a bigger challenge than in a traditional face-to-face classroom because of the physical absence of both the instructor and classmates in an online environment. Advanced adult ESL learners participate in threaded discussion forums as part of class participation, or they have to take online courses due to the lack of classroom accommodation in universities and colleges in the United States. It has thus become necessary to prepare adult ESL learners for this new challenge they will face after they enter universities and colleges.

During participation in online discussion, ESL learners sit alone in front of computers and try to communicate with their peers in English: They don’t see their peers or hear what they say to them; instead, they read what other participants are writing on the computer screen: online discussion is text-based. In the meantime, they respond to their peers by posting their own messages. The communication is mainly text-based although some posted messages may contain emoticons through which the interlocutors indicate their emotions. In text-based communication, paralinguistic cues, such as facial
expressions, gestures, and intonation contours are not available to provide assistance when comprehending messages. Adult ESL learners have to rely solely on written messages to maintain the flow of interaction.

In many circumstances, advanced adult ESL learners are engaged in groups to discuss assigned readings on the discussion board in which they undoubtedly encounter unknown words and are compelled to use those unfamiliar words to communicate with their peers in order to complete tasks. Their strategies for dealing with unknown words during participation in online discussion are crucial. Wilkins (1972) points out that “without grammar very little can be conveyed, without vocabulary nothing can be conveyed” (see in Singleton, 1999, p.9). This makes vocabulary especially important in text-based communication.

While online discussion has grown dramatically in American higher education across the past decade, most studies about second language learners in computer-mediated communication (CMC) focus on how the computer is used for language learning, particularly in fostering the four language skills and promoting intercultural communication competence (a brief literature review is presented in Chapter 2). Moreover, most studies of interactional features are conducted in the synchronous mode (Chun, 1994; Darhower, 2000; 2002; Lee, 2002a; 2002b; Kotter, 2003; Pellettieri, 2000; Thorne, 1999). Interaction in a synchronous mode is similar to that in face-to-face communication. The participants can get responses from peers immediately. Very few have investigated interactions in an asynchronous mode. Sotillo (2000) compares the interaction patterns between synchronous and asynchronous modes and concludes that interactions in a synchronous mode are similar to the ones in face-to-face conversations, whereas the interactions in an asynchronous mode are more like the traditional initiation-response-evaluation (IRE) patterns.

As technology advances, online discussion in an asynchronous mode attracts more and more attention because of its independence from time and place, and particularly its structural format of discussions, in which all messages are linked by topics. At present, the threaded discussion forum on Blackboard\(^1\) is very commonly used

\(^1\) Blackboard’s software contains templates that the instructor can use to integrate into class discussions, communication, and also class assignments. Group Pages can be used to engage participants in small
on American college and university campuses for online discussions. However, there is still no research investigating advanced adult ESL learners’ struggles in threaded discussion forums, in which the interaction is time-delayed and the participants have to maintain the flow of interaction while dealing with unknown words in task-based communication. The adult ESL learners suffer from a common dilemma: the dual demands of attending to unfamiliar language during online communication while also maintaining the flow of communication or comprehension (Newton, 2001).

**Purpose of the Study**

The purpose of the present study was to explore how advanced adult ESL learners interact with their peers in a threaded discussion forum. The investigation focused not only on interaction patterns emerging in the asynchronous mode but also on the process of how advanced ESL learners dealt with unknown words they encountered during the discussion of controversial issues in a threaded discussion. It sought evidence through discourse analysis of the messages posted on the threaded discussion board to show how advanced ESL learners could benefit from the messages posted by others and sometimes more capable peers. It demonstrated the affordances (van Lier, 2000) that an online environment could provide to the participants in dealing with unknown words in task engagement. This study also examined word appropriation strategies that advanced ESL learners employed to maintain the flow of interaction when they encountered unknown words in task-based interaction on a threaded discussion board.

**Research Questions**

To understand how adult ESL learners interacted with one another in a threaded discussion forum and appropriated unknown words they encountered during participation, the research questions were:

1. **What patterns of interaction emerge during participation in a threaded discussion?**
1.1 Under what circumstances do the roles of expert and novice emerge during task engagement?

1.1.1 Who initiates each thread to start argument in the threaded discussion?

1.1.2 Who provides argumentative ideas within and across threads to shift into a new direction of arguments?

1.1.3 Who posts messages containing words identified by other participants as unknown but needed for task completion?

1.2 How do the functions of the postings sustain the flow of arguments?

1.3 How do multiple voices emerging during task engagement serve as mediational tools for expansion of arguments as well as meaning co-construction regarding words identified as unknown before participation?

2. Is there any evidence demonstrating adult ESL learners’ appropriation of unknown words when participating in the threaded discussion forum, and if so, how do they do it?

The first research question explored the patterns of learner interaction in the threaded discussion forum. It investigated how the participants collaboratively assisted one another to complete the assigned tasks. Three aspects guided the investigation of learner interactions emerging in the threaded discussion, including 1) the roles of expert/novice, 2) the functions of the postings to maintain the flow of arguments, and 3) multiple voices emerging during task engagement. The first research question investigated the assistance that the participants received from one another by means of postings on the threaded discussion board. The analysis of the functions of the postings sought to see how the postings were composed to maintain the arguments between and among the participants to complete the tasks. Finally, the investigation of multiple voices in the threaded discussion went into a detailed analysis regarding how the participants shared knowledge and refracted others in competing voices while reading and posting messages in the threaded discussion. The answer to this question shed light on the process of how the participants received assistance from the community of interdependence (Hudson & Bruckman, 2002; Sengupta, 2001; Wenger, 1998) and language practice in a threaded discussion forum.
During task engagement, however, the participants also ran across unknown words and had to use them to discuss important issues with their peers to complete tasks. The second question sought to identify word appropriation strategies (WASs) that the participants employed when encountering unknown words embedded in messages in the threaded discussion forum. It provided insights into how participants attempted to comprehend messages containing unknown words while having an immediate need to respond to prior messages.

Theoretical Framework

The Nature of Interaction in Computer-mediated Communication

The interaction in CMC is very different from traditional face-to-face interaction. Exploring the nature of CMC, Warschauer (1997) argues that it has potential for promotion of collaborative learning by means of the following five features: text-based and computer-mediated; many-to-many; time- and place- independent; long distance; and distributed via hypermedia links. Collaborative CMC has been shown to build virtual communities for socialization, interdependence, and practice (Hudson & Bruckman, 2002; Sengupta, 2001; Wenger, 1998). Participants in the learning communities bring their prior knowledge and different cultural backgrounds and share them with other community members. They receive support from other community members and communicate in meaningful social contexts.

A threaded discussion forum is one type of asynchronous CMC. The forum accommodates many participants on a discussion board to interact with their peers in discussions deeply and thoroughly because of the topical structure of the system (Harasim, 1990). All messages posted in the threaded discussion forum are chronologically listed and topic-linked by the heading of messages. Participants interact with their peers by reading and responding to messages regarding the same topic within a thread. Therefore, each thread functions as a collaborative dialogue among the participants who post messages within the thread.

Warschauer (1997) argues that the interaction in CMC is a combination of speech and writing. Although all messages within a thread serve as a collaborative dialogue
about a discussion of a certain topic among the participants, they are text-based and the participants can retrieve posted messages as many times as needed. This type of text-based dialogue has an advantage of knowledge construction. Wells (2000) points out that “…in discussing the spiral of knowing, dialogue is not restricted to the spoken mode. Indeed, powerful though it is as a means of engaging participants in a joint activity, dialogue in the oral mode has one serious disadvantage as a medium for knowledge building: it leaves no record of what has been jointly constructed” (pp. 76-77). He further states that the invention of technological means makes knowledge independent of oral memory in the form of writing. Participants in the text-based dialogue are allowed to review and revise their messages. Therefore, the dialogue serves as a “thinking device” (Harasim, 1990; Lotman, 1988; Warschauer, 1997; Wells, 2000) because the text-based mode allows language learners to freeze and pay closer attention to ongoing interaction, which is important for collaborative construction of knowledge. In addition, the computer-mediated form makes knowledge easy to be transmitted, stored, archived, re-evaluated, edited, and rewritten. Therefore, by means of collaborative construction of knowledge the participants are able to complete assigned tasks jointly, which they are not able to do when working alone.

**Sociocultural Theory**

In a threaded discussion forum, learner interaction is mediated by the computer. During task engagement, the participants are involved in mediated action in a social space through the computer. Vygotsky’s (1978) sociocultural theory (SCT), a model of mediation, provides the theoretical framework for the concept of interaction adopted in the present study. With an emphasis on social interaction, the notion of the *zone of proximal development* (ZPD) in SCT will be applied to demonstrate the relationship among the participants emerging during threaded discussions, particularly in how the participants collaboratively assist each other to accomplish tasks. The metaphor of expert and novice in the ZPD will provide insights into how a less capable peer can benefit from postings from a more capable peer when s/he encountered unknown words and tried to use them to reply to prior messages due to the text-based nature of online environments.
According to Vygotsky (1978), the ZPD is defined as “the difference between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers… (p. 86). The ZPD is developed as social interaction emerges during task engagement in which the novice is able to solve a problem with assistance from a more capable peer. The collaboration in joint activity among the participants occurs not only between novices and experts but also between peers. Donato’s (1994) study in peer interaction reports the occurrence of collective scaffolding, which shows how the role of novice and expert shifts during the progress of activity. In his study, different participants in the activity made a contribution to task completion; the scaffolding was collective and mutual because the role of expert and novice rotated during task engagement.

With regard to interaction in social space, Wertsch (1998) explores the nature of social interaction in two opposing tendencies: intersubjectivity and alterity. Intersubjectivity focuses on a communicative situation in which the interlocutors share a perspective and reach a consensus through interaction (Rommetveit, 1979). Alterity, however, concerns a different perspective existing among the interlocutors, and the development is built on awareness of otherness (Bakhtin, 1981). Multiple voices existing among the interlocutors in a dialogue stimulate meaning reconstruction and lead to transformation. Wertsch notes that the importance of these two tendencies varies, depending on how each of these notions is integrated into the dynamics of activity (A discussion of these two notions will be presented in Chapter Two).

**Word Meaning in Communication**

The present study explored patterns of interaction in an asynchronous mode. The time-delayed nature of an asynchronous mode makes word appropriation especially important because advanced ESL learners are often assigned to read and discuss issues containing unknown words and, therefore, have to use them to communicate with peers during task engagement. As Richards (2000) posits, “…lexical knowledge is central to communicative competence and to the acquisition of a second language. Vocabulary and lexical units are at the core of learning and communication” (p. XI). This statement
underscores the importance of words in communication because words are used to convey meanings to express interlocutors’ intentions. Vygotsky (1986) proposes a similar notion by stating that “word meaning is an elementary ‘cell’ that cannot be further analyzed and that represents the most elementary form of the unity between thought and word” (p. 212). Therefore, to understand language learners’ struggles with unknown words in online discussion, a researcher should investigate the process of how language learners make sense of unknown words encountered in tasks, pick them up from other interlocutors, and use them for communication.

As discussed previously, communication in a threaded discussion becomes text-based. When advanced adult ESL learners are assigned to discuss a reading on the discussion board, they encounter unknown words embedded in messages and have an immediate need to use (or re-use) them to communicate. The strategies used to deal with unknown words will be similar to those in reading. The common strategies include inferring meaning from the context, ignoring unknown words, and consulting a dictionary (Fraser, 1999; Henriksen, 1999). Because interaction in the threaded discussion involves reading and writing, the participants will have not only to comprehend unknown words in postings but also to use them or the concepts they represent to communicate. Their strategies for confronting unknown words will have to move from receptively understanding the word meanings to productively using the words or their concepts to communicate. Language learners may also paraphrase unknown words or simply copy them from prior messages to maintain the flow of interaction.

**Methodology**

To understand the struggles that adult ESL learners had when encountering unknown words during task engagement, it was crucial to engage the participants in a situation in which they confronted unknown words during task engagement. With the purpose of communication, adult ESL learners were compelled to appropriate unknown words during the progression of task completion. The threaded discussion forum recorded learners’ moment-to-moment interaction through which the researcher was able
to analyze their text-based interaction to learn how tasks were accomplished through peer collaboration and word appropriation strategies.

The subjects in the study were low-advanced and advanced adult ESL learners enrolled in an intensive English program at a major state university in the Southeast, which prepares them to pursue degrees at American colleges and universities. The students were from different cultural and linguistic backgrounds. At present, threaded discussions are used very commonly as part of participation in regular classes or in distance online courses. Participation in the study prepared the adult ESL learners for future academic challenges.

Because the tasks in the present study were for advanced adult ESL learners to discuss controversial issues, the notion of alterity in communication was used to discuss learner interaction emerging in social interaction on the discussion board (Wertsch, 1998; 2000). Controversial issues were chosen as prompts to initiate discussions in the threaded forum. Data for learner interaction in the threaded discussion forum and evidence of word appropriation strategies were drawn from discussions of such issues on Blackboard. They were assigned to read two controversial articles: one about a mandatory school uniform policy and the other about assisted suicide. The participants were randomly divided into two groups to argue the controversial issues. They were requested to identify evidence from the assigned reading and use the evidence they found from the articles to support their group positions and argue against the opposite group. In so doing, the participants were guided to use unknown words found in the assigned readings to construct their arguments. The participants were asked to fill out a pre- and a post-task vocabulary knowledge scales (VKS) (adapted from Paribakht and Wesche, 1993) to indicate their individual starting points of vocabulary knowledge and also their vocabulary development after tasks.

All learner interactions were recorded in the threaded discussion forum and were downloaded and printed out for data analysis. Discourse analysis was the main strategy for investigation into patterns of learner interaction emerging during task completion, including emergence of the roles of expert and novice, the functions of postings, and multivoicedness for meaning construction needed for task completion. Messages within threads were analyzed to investigate the three aspects described above in response to
Research Question # 1 (What patterns of interaction emerge during participation in the threaded discussion forum?). Two tasks were used to seek consistency of interaction patterns.

In response to Research Question # 2 (Is there evidence demonstrating adult ESL learners’ word appropriation of unknown words when participating in the threaded discussion forum?), word appropriation strategies emerging during data analysis were inferential strategies, paraphrasing strategies, ignoring strategies, and dictionary-consulting strategies. These strategies were determined by analysis of postings and introspective post-task interviews because a sole analysis of messages did not provide complete answers. For instance, when the participants used unknown words in their messages, the researcher did not know if they had already inferred the meaning from the context or simply just copied the words from the prior messages without knowing their meanings due to the pace of communicative pressure. Therefore, after preliminary analysis of the pre- and post-task VKS and of transcripts downloaded from the discussion board, the researcher conducted post-task interviews with individual participants to clarify confusion regarding learners’ word appropriation strategies. The interview data and message data together provided accurate answers to the word appropriation strategies employed when the participants encountered unknown words during task engagement.

Significance of the Study

Online discussion has become a growing trend at the college and university level in the U. S. Advanced adult ESL learners will need to participate in online discussion as an extension of regular courses beyond class time or take online courses due to lack of classroom accommodation or because of distance. The challenges they face are not only language barriers but also an unfamiliar mode of interaction. However, until now no research has been conducted about advanced adult ESL learners’ interaction in asynchronous discussions and their struggles to maintain the flow of interaction when encountering unknown words during task engagement. Advanced adult ESL learners need training in participating in online courses, and ESL educators and administrators in
intensive English studies also need to learn the difficulties that advanced ESL learners confront with in online discussion and prepare them for future challenges.

The present study investigated learner interaction in a threaded discussion forum and WASs employed by advanced ESL learners. The outcomes of the study contribute to the field in different ways. First, the present study provides insights into advanced ESL learners’ challenges of taking online courses as opposed to those of native speakers. A second contribution is its use a qualitative approach to demonstrate learners’ moment-to-moment interaction in a threaded discussion forum. The outcomes showed how advanced learners could rely on peer interaction to accomplish joint tasks without the intervention of instructors. Third, an investigation of adult ESL learners’ word appropriation in communication-based tasks in asynchronous discussions provides ESL educators and administrators insights into how to prepare their advanced adult learners to perform effectively and reduce their frustrations in an asynchronous threaded discussion forum. Finally, grounded in sociocultural theory, the investigation of interaction patterns when adult ESL learners argued about controversial topics explores the notion of interaction in social space involving both intersubjectivity and alterity (Bakhtin 1979; Wertsch 1998; 2000). Detailed analysis of goal-directed semiotic processes of learners’ interaction for meaning co-construction in joint tasks infuses new life to existing theories when analyzing a new mode of interaction.

**Limitations of the Study**

The present study was an exploration in advanced ESL learners’ interaction in a threaded discussion forum. The study was limited in some ways, which have to do with the participants of the study and the methodology used to approach the study. In ordinary circumstances, advanced adult ESL learners are interacting with native speakers when taking online courses. However, in order to gather enough evidence about advanced ESL learners’ participation in online discussion, the participants in the present study were all ESL learners, a situation that would not be found in most regular college classrooms.

The study was also limited to the period that the threaded discussion lasted. Because some of the participants did not have computers at home, they participated in a
class-period basis rather than a week-length basis, which they would have more time to reflect on their postings.

**Organization of the Dissertation**

In Chapter 2 a detailed discussion about the theoretical framework is discussed. The literature review starts from a discussion of the nature of collaborative CMC, teacher and students’ role in CMC, and its advantages and disadvantages. Then the SCT is discussed, and the researcher relates theoretical constructs in SCT with the present study. Finally, a discussion of word appropriation strategies regarding reading and writing is presented.

Chapter 3 focuses on the two major questions proposed for the present study and provides discussion of the detailed design of tasks used for data collection and their relationship with the present study. It also describes how discussions in controversial issues were conducted in the study, including data collection, coding, and analysis methods.

Chapter 4 reports the results gained from the study. It presents detailed discussions and interpretations of the results to answer the questions proposed in Chapter 1. Chapter 5 discusses the findings and addresses the study’s contribution to the literature in distance learning as well as in SLA and ESL instruction.

**Definitions**

The definitions of relevant terms employed in this study are presented below.

*Affordance*: assistance that learners can receive from the environment.

*Alterity*: a type of social interaction in which interlocutors are involved in dialogic and thought-generating interaction. (see Wertsch, 1998, especially Chapter 4)

*Asynchronous online discussion*: time-delayed online discussion.

*CMC*: computer-mediated communication.

*Collaborative learning*: working together and supporting each other to maximize learning and task outcomes.

*ESL*: English as a second language.
Scaffolding: providing contextual supports for meaning through guidance from more capable peers and collaboration with peers.

Synchronous online discussion: instant online discussion

Text-based communication: the communication in a written form.

Threaded discussion forum: a discussion form in which messages are chronologically listed and topic-linked within threads on the computer.

Word appropriation strategy (WAS): strategies that language learners use to appropriate unknown words when encountering them in context.

Zone of proximal development: the psychological space in which learners move from their current level to potential level with assistance.
CHAPTER TWO
LITERATURE REVIEW

Currently, advanced adult ESL learners face challenges of participating in online discussions after admission into colleges and universities. However, very little research has investigated advanced adult ESL learner interaction in a threaded discussion forum and strategies used to maintain the flow of interaction, particularly when encountering unknown words during asynchronous online discussions. With this study background, the present chapter will critically review the pertinent areas of research, including collaborative CMC, CMC studies in SLA, sociocultural theory, and word meaning in communication.

Collaborative Computer-mediated Communication

Collaborative CMC has been considered very effective for language learning because an online environment is able to create social communities that generate high levels of interactivity. High levels of interactions engender a great amount of social interaction among learners during which they exchange ideas and construct knowledge. In online discussion language learners are exposed to communities of socialization and language practices. However, because of the virtual nature of an online environment, the teacher’s and students’ roles are different from the ones in a traditional classroom. This section will discuss the teacher’s and students’ roles and advantages and disadvantages of collaborative CMC to see the impact of collaborative CMC in teaching and learning.

Communities of Interdependence and Socialization

The learning environment is a very important factor that instructors must consider when designing the delivery of instruction. Regardless of whether it is synchronous or asynchronous collaborative CMC, the computer can create an online community in which learners are exposed to an authentic environment so that they can communicate with a real audience (Opp-Beckman, 1999). Egbert (1999) proposes that, “language learners
must be involved not only in social interaction but in purposeful interaction, which includes a real audience that is actively involved with the learners” (p. 4).

Human-to-human interactions in CMC provide learners with an environment in which interactions are mediated through social networking, and learners in the community can share their knowledge and provide support and feedback to other members in the community (Barab, Markinsster, Moore & Cunningham, 2001). Social interaction in the community is two-way communication, and learners can get immediate feedback from a real audience in ongoing online conversation.

Learners in the community are encouraged to actively participate in discussions. They are encouraged to express their opinions and interact with other participants. Participants in this community bring their previous experiences or different cultural backgrounds into the discussions. They co-construct meaning to complete tasks in the social context (Segupta, 2001). They also build up interdependent relations with each other through online discussions and collaboratively complete tasks. Members of the community may feel a sense of belonging after a certain period of time of exchanging ideas and solving problems together in the online virtual community (Sherry, 2000).

The Role of the Teacher

In CMC, the role of the teacher is very different from the traditional one, especially when they are “physically absent” in an online learning environment. Johnson (2002), citing Lankshear and Snyder’s work (2000), states that in an online environment the teacher is viewed as a facilitator of learning rather than a provider of knowledge. She further cites Brandon and Hollingshead (1999) for the proposition that the role of teacher in online learning is to encourage learners’ participation, weave together their threaded discussions, and monitor the flow of interaction. Although the teacher in CMC is physically absent, s/he can maintain presence by regularly providing directive written feedback to the learners for guidance. In addition, the teacher has to initiate discussions by providing prompts and grouping the students before they start their discussions.

Ideally, when the teacher’s role in collaborative CMC becomes that of a facilitator, the learners then actively take control of their learning. Thus, the teacher no longer dominates the discussions but initiates discussions and lets the learners take over.
In this way, the learners control their own learning pace. The teacher, however, may allocate the time that learners participate in the discussion, group the students, and rotate students’ roles in their small groups, but once the online discussion gets going, sometimes it is very difficult for the teacher to get attention back from the students. Kamhi-Stein (2000) talked about his experience of using a web-based bulletin board for class. He found that his students completely ignored the messages he posted on the electronic bulletin board while they concentrated on their ongoing discussions, which rarely happens in a traditional classroom. The role of the teacher in CMC is challenged by the mode of communication. The teacher no longer dominates the discussion; s/he becomes a facilitator and is decentralized from learner-centered discussions.

However, the quality of interaction depends on well-designed CMC activities by the instructor (Egbert, 1999). In order to make sure learners engage in high-quality social interaction, the instructor must design tasks to mediate learner interaction so that they can collaboratively complete the tasks. Everyone in the tasks has a role to play in the collaborative process. The teacher’s responsibility is to engage the students to actively participate in the learning process rather than to passively receive knowledge.

The Role of the Students

Ideally, learners in collaborative CMC are more active because learning in collaborative CMC comes from their engagement in activities. In collaborative CMC learners become problem solvers rather than just memorizers of facts. They initiate the topic to discuss or take over prompts initiated by the instructor. They are the persons who lead the flow of discussions. They bring their viewpoints from their personal historical backgrounds and share them with other participants. Instead of passively waiting for instructions from the instructor, they actively co-construct knowledge with assistance from more capable peers through the mediation of activities. Their role in the group is constantly changed: sometimes a participant is able to share what s/he knows with others while at other times s/he needs to learn from someone else. They express their opinions and also respond to other participants during the process of social interaction.
Peer interaction is the main focus of learning in collaborative CMC. Learning comes from the learners’ active participation in online activities. However, research shows that there is no guarantee that learners in groups will engage in effective collaborative learning (Soller, Goodman, & Gaimari, 2002). Soller, Goodman, and Gaimari contend that collaborative learning (CL model) should include five categories: participation; social grounding; collaborative learning conversation skills; performance analysis and group processing; and promotive interaction. In this CL Model, students in groups should be encouraged to engage in tasks actively; they take turns questioning, clarifying, and rewording their peers’ comments to ensure their own understanding of the team’s interpretation of the problem and the proposed solution. In collaborative learning, conversational skills refer to the skills of “knowing when and how to question, inform, and motivate teammates, knowing how to mediate and facilitate conversation, and knowing how to deal with conflicting opinions” (Soller, et al 2002). The students’ roles in groups can be as questioner, clarifier, mediator, informer, and facilitator; students rotate these roles in groups to accomplish assigned tasks collaboratively.

The conversational skills discussed above are key to success in effective collaborative CMC. During the collaborative learning process, more active learning skills, such as justifying, elaborating, encouraging, and explaining will be fostered, so learners will need to work together to find solutions in problem-solving tasks. With an understanding of the skills that learners need when engaging in collaborative learning, instructors can train their students in these problem-solving strategies and help them engage in the collaborative learning process more confidently and effectively.

Advantages of Collaborative CMC

Chun (1994) reviews Bump’s reference and other studies about collaborative CMC and concludes that the advantages of collaborative CMC include “intense collaboration among students and between students and teacher; increased student participation, particularly of minorities and women; decentralization of the instructor’s role and therefore more learner-centered, and ‘honest’ communication (e.g. more self-discourse, expression of emotion, and improved thinking and creativity” (pp. 20-21). We can categorize these advantages into three areas: quantity, equality, and quality.
First, with regard to the increase of the quantity of language input and output produced in collaborative CMC, the learning environment in online communication is a main factor. It creates an environment in which learners are encouraged to engage in interactions with fewer problems of turn taking and interruption when compared with the traditional face-to-face classroom. For example, in asynchronous collaborative CMC, learners do not have to wait to express their ideas because they post messages whenever they feel ready. Slow students can work on their messages without any time pressure (Kelm, 1996). No one can dominate the discussion; it depends on learners’ motivation to participate in the discussion. Learners can read a number of messages on the computer screen and take more time to respond to their peers. Low proficiency language learners can have a chance to read many messages about the same topic and learn how more capable learners express their ideas in the target language, such as vocabulary use, expressions, and linguistic aspects. They take sufficient time to write and edit before they post their responses and feedback on the screen. By contrast, in synchronous collaborative CMC, learners have to try to follow the rapid flow of the discussions. They are forced to respond to messages immediately. In that way, they are compelled to produce something, which cannot be done in a short time when they work alone. This kind of “pushed output” enhances learning (Swain, 1985). Kern’s (1995) study shows that students in online discussions have over twice as many turns and produce two to four times more sentences than in face-to-face classroom discussion. Also, the decentralization of the teacher’s role gives learners more opportunities to participate in the discussions. Students become the center of discussions; they take control of their learning, including the pace and content.

Second, collaborative CMC enhances the equality of learner participation, especially for non-native, minority, and female students (Bump, 1990; Markley, 1992). In an online environment, learners’ identities are merely names, whether real or pseudonyms, so there is no anxiety or fear of embarrassment to prohibit them from saying things out loud since they are not physically shown or seen by other participants. They are likely not to consider too much about what people will think when they say something inappropriate or incorrect, which is especially beneficial for nonnative speakers or shy learners. They can express their opinions completely without being
interrupted. Also, female students, whose opinions could be ignored in face-to-face classroom interaction due to their shyness or soft voices, have more chances to participate in discussions.

Third, with regard to the quality of language output, most studies indicate that collaborative CMC increases language complexity (Chun, 1994; Kern, 1995; Warschauer, 1996). Studies reveal that learners use a much greater variety of discourse functions and longer and more complex sentences.

One more advantage of CMC proposed by Chun (1994) is that learners are compelled to use only the target language for communication due to the interface of the computer. In face-to-face classroom discussions, learners are likely to use their native language when working in small groups, but in online discussions they have to read and write in the target language or seek assistance from peers to express their ideas. In sum, learners’ communicative skills can be developed in collaborative CMC (e.g., Chun, 1994; Darhower, 2002; Lee, 2002a).

Disadvantages of Collaborative CMC

While collaborative CMC has many advantages, some problems of using it have been noted. Chun (1994) states “The disadvantages of collaborative CMC include techno stress or techno phobia; slow speed as compared with speaking; insufficient voice communications; loss of coherence in discussion of a topic; loss of teacher control; too direct or confrontational style (e.g., profanity, negative affect, use of capitalization and exclamation points); problem of not being able to see the forest for the trees” (p. 20).

First, techno-stress occurs when some learners or instructors are not familiar with using the computer for their online interaction, so they need to learn how to use the technology for learning (Lee, 2002a). Second, Peyton (1999) mentions three challenges for CMC, which are a sense of anonymity, immediacy of the medium, and a sense of community. Due to the sense of anonymity and immediacy, learners are likely to play with the language and come out with “graffiti-like” messages, and the discussions are likely to be “fragmented and out-of-topic” because learners are trying to catch up with the rapid flow of discussions (p. 23). Third, CMC is mediated by means of the computer, so learners are not communicating face-to-face. The assistance of non-verbal language,
such as gestures, intonations, and facial expressions are absent, so learners can rely only on verbal language for communication. However, more and more emotional icons are being developed to indicate facial expressions and other non-verbal expressions when learners are communicating online. For example, learners use ☺ to add a smile in their messages.

Some of these disadvantages can be solved by well-designed curricula and instruction, and an integration of online learning into the curriculum is essential to the success of collaborative CMC for language learning. For example, to avoid off-topic discussions the instructor can group students and ask them to summarize their discussions whenever they formulate some sort of conclusion. Additionally, the instructor can monitor their discussions and provide feedback or give modeling regularly to guide the discussions and make the students understand that they are on the right track. Setting expectations of the goals for the students and providing an orientation of access to the computer can also help reduce anxiety and techno phobia associated with online learning.

A Comparison of Synchronous and Asynchronous Collaborative CMC

Collaborative CMC includes two modes: one is synchronous, and the other is asynchronous. There is a need to draw a distinction between the different modes with respect to learning. The following table provides a comparison of these two modes.

<table>
<thead>
<tr>
<th>Modes</th>
<th>Synchronous</th>
<th>Asynchronous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Real time</td>
<td>Time-delayed</td>
</tr>
<tr>
<td>Place</td>
<td>Same or different</td>
<td>Same or different</td>
</tr>
<tr>
<td>Turn-taking</td>
<td>Yes/no</td>
<td>No</td>
</tr>
<tr>
<td>Length of turn</td>
<td>Short</td>
<td>Longer</td>
</tr>
<tr>
<td>Recording dialogue</td>
<td>Easy to retrieve</td>
<td>Easy to retrieve</td>
</tr>
<tr>
<td>Elaboration of messages</td>
<td>Difficult to elaborate and edit</td>
<td>Easy to elaborate and edit</td>
</tr>
<tr>
<td>Time constraints</td>
<td>Very high</td>
<td>No time constraints</td>
</tr>
<tr>
<td>Topic shift</td>
<td>Fast</td>
<td>Easy to stay on topic</td>
</tr>
<tr>
<td>Feedback</td>
<td>Immediate, more interactive</td>
<td>Time-delayed, more reflective</td>
</tr>
</tbody>
</table>
In synchronous CMC, learners communicate with peers in real time, and they get immediate responses, so the communication is more interactive and intense, which may encourage more participation. By contrast, in asynchronous CMC, learners have to wait for responses, which are time-delayed, but they get more time to modify and elaborate their messages, such as vocabulary use, grammatical corrections, and organization of ideas. It provides learners with an opportunity to reflect on what they are learning. Both synchronous and asynchronous communication can connect learners from the same place or different places; it depends on the design of activities.

For turn taking, synchronous CMC has two modes: in videoconferencing, learners have to wait to take turns, but in *Daedalus Interchange* learners can speak (or we would say “write”) without interruption. In asynchronous CMC, however, there is no problem of turn taking because learners can post messages at any time. The synchronous CMC proceeds in real time, so the length of turn is likely to be shorter because the flow of the interaction is fast and the topic shifts rapidly. By contrast, asynchronous CMC is time-delayed, so the length of a turn is likely to be longer because learners can take time to respond to messages, and they can elaborate and edit their expressions since there are no time constraints in this mode.

To summarize, the use of collaborative CMC in SLA teaching is still a new and emerging field, although the underlying concepts have been in place for nearly 20 years. The computer can connect many participants in one activity, and the many-to-many interaction can be retrieved any time for learning and research. Learners can review what has been discussed in activity according to individual needs; SLA researchers can capture learners’ moment-to-moment changes in language development. Different software has different modes of learner interaction. Instructors use different software to design pedagogic activities to meet the needs of different purposes of instruction. Because online discussion can generate a great deal of learner interaction, it has been applied to SLA to promote language learning. The following section will discuss CMC studies in Second Language Acquisition.
An Overview of CMC Studies in SLA

Collaborative CMC has been applied to second language teaching and learning. Many studies have been conducted to investigate the implementation of CMC to language learning and facilitation of intercultural competence. Some studies have focused on equality of participation and quality and quantity of learners’ language production via collaborative CMC to demonstrate how language learners could benefit from the mediation of the computer (Beauvois, 1992; Chun, 1994; Kelm, 1992; Kern, 1995; Warschauer, 1996). These studies demonstrated that electronic discussions promote equal opportunities for learners to participate in discussions, which bring more quantity and better quality to their language production.

Second, some studies suggest that online discussions enhance learners’ oral skills as well as writing skills, even though most online discussions were conducted solely in the written mode. Beauvois (1997) provided a very detailed description about how the written mode could be transferred over to oral proficiency (Beauvois, 1997; 1998a; 1998b). Chun (1994) also suggested that online discussions could bridge the gap
between writing and speaking skills. Kinginger (1998) investigated learners’ oral ability with the medium of videoconferencing. These studies all suggested that online discussions facilitate both writing and oral skills.

Third, some studies used e-mail to advance intercultural competence because the computer can connect language learners around the world. Online discussions have been used as a tool to promote intercultural competence and communicative competence (Jogan, Heredia & Aguilera, 2001; Belz, 2003; Thorne, 2003b). Language learners benefited from rich sources of authentic cultural exposure but also faced the problem of intercultural communication due to ignorance of cultural differences.

Fourth, some studies investigated teachers’ and students’ perception of using of collaborative CMC for language learning (Darhower, 2000; Lee, 2002a, 2002b; Thorne, 1999) and claimed that the electronic environment provides a “less threatening environment” in which learners feel comfortable to use the target language to communicate with people and that these optimal opportunities of communication are beneficial to their language development (Kelm, 1992).

Finally, some studies examined interactional features in synchronous CMC (Chun, 1994; Darhower, 2000; 2002; Lee, 2002a; 2002b; Kotter, 2003; Pellettieri, 2000; Thorne, 1999). These studies shed light on how learners interact with other participants in the electronic environment. The findings from these studies suggest that learners’ communicative competence can be fostered during participation in online discussions. Most of these studies were conducted within the interactionist framework and suggest that learners used clarification, repetition, confirmation and comprehension checks to maintain the interaction, which eventually led to form focus. Only a few studies were conducted in an asynchronous mode. These studies suggest that asynchronous CMC fosters coherent discussions, produces syntactically complex language, and enhances reflectiveness. These five categories of studies in collaborative CMC are presented in the Table 2.2:
Table 2.2
Previous Studies

<table>
<thead>
<tr>
<th>Category</th>
<th>Studies</th>
<th>Findings</th>
</tr>
</thead>
</table>
| Equality of participation & quantity and quality of language production | Beauvois, 1992; Chun, 1994; Kelm, 1992; Kern, 1995; Warschauer, 1996 | • More equal participation than face-to-face interaction  
  • Increase of language production and complexity  
  • Optimal opportunities for language development  
  • Larger exchanges but lower levels of interactions |
| Writing and oral proficiency                  | Beauvois, 1997; 1998a; 1998b; Kinginger 1998; Payne & Whitney, 2002 | • More time to think and compose responses  
  • Indirect transfer from writing skills to oral skills  
  • Natural communication process  
  • Assistance needed if communicating with native speakers |
| Intercultural competence                      | Jogan, Heredia & Aguilera, 2001; Belz, 2003a; 2003b Thorne, 2003       | • Interests in the other’s point of view and cultural systems  
  • Expectation of an equal partnership  
  • Low tolerance for the experience of otherness  
  • Lack of adequate knowledge of specific pattern of interaction in the target culture  
  • Shared orientation to activity needed  
  • Rich sources of authentic cultures |
| Perception of using CMC                       | Darhower, 2000; Lee, 2002a; 2002b; Sengupta, 2001; Thorne, 1999; Weasenforth et al. 2002 | • A sense of ownership of messages posted  
  • Promotion of social and cognitive skills as well as affective factors and individual differences  
  • Development of a sense of responsibility  
  • Support of contextual factors and learning communities |
| Interactional features in CMC                 | Synchronous CMC Chun, 1994; Darhower, 2000; 2002; Kotter, 2003; Lee, 2002; Pelletieri, 2000; Thorne, 1999; | • Requests for clarification, explanations, and comprehension checks  
  • Circumlocution, approximation, repetitions, and simplification  
  • Directive feedback to form correction  
  • Collective scaffolding from peers  
  • Intersubjectivity, off-task discourse, social cohesiveness, greeting and leave-taking, use of humor, identity, sarcasm/insults, and use of L1 |
Table 2.2 – continued

| Asynchronous CMC | • Promotion of coherent discussions  
| Lamy & Goodfellow, 1999; Sotillo, 2000; Scoller et al. (1998) | • More opportunities to produce syntactically complex language  
| | • Similar to the question-response-evaluation sequences  
| | • Enhancement of reflectiveness and interactivity  
| | • Multiple voices in interaction  

Synchronous CMC Studies in Learner Interaction

In the overview above, most studies regarding interactional features were conducted in a synchronous mode. For the studies grounded in an interactionist approach (e.g., Kotter, 2003; Lee, 2002b; Pellettieri, 2000; Smith 2003), these researchers engaged the participants in dyads and discussed tasks based on Pica, Kanagy and Falodun’s (1993) typology, such as jigsaw, decision-making, and problem solving. Learner interaction in these studies is primarily about repairs of breakdowns, and learners ask for confirmation, clarification, and comprehension checks to negotiate meaning to maintain the flow of interaction. These studies suggest that participants can get corrective feedback from other participants and thus focus on form.

Pellettieri (2000) investigated online discourse between ten dyads of English-speaking intermediate-level students of Spanish via a chat-like program called ytalk. The results of her study showed that the participants negotiated over all aspects of the discourse, which led to form-focused linguistic modifications. The participants in the study took turns providing and being provided corrective feedback and incorporated the target-language forms into subsequent turns. In so doing, the participants reached mutual comprehension and communicated with one another successfully by means of corrective feedback. She concluded that the network-based communication fostered meaning negotiation and form-focus interaction for language learning.

Kotter (2003) investigated interaction between German and American students at the university level in real-time email-based discourse. Twenty-nine students were divided into eight groups to collaborate on projects presented during the final week.
The interface used in the study was *Tandem*, which allowed two windows of different sizes to be shown on the screen at the same time. The smaller window at the bottom of the screen was for the participants to enter and edit their own messages while the larger area at the top of the screen showed what was happening in the online world. The results of the study reported that learners exploited the bilingual format of their exchanges and code-switched between their L1 and L2. When the participants did not understand their partners, they used the following strategies to maintain the interaction: 1) asking for repetition of the utterance, 2) asking for a paraphrase, 3) asking for a translation, 4) trying to guess the meaning of the utterance, 5) ignoring the utterance, 6) changing the subjects of the discussion, and 7) others. Because German students understood English, many American students borrowed lexical items from their L1 when dealing with difficulties of using L2 rather than sticking to their target language. Meanwhile, when German students asked for lexical help, their discussion turned into metatalk about the use and choices of words. Because of the discrepancy among the participants with respect to their command of the target language, the participants benefited from their partners’ expertise as native speakers of their respective L1s.

In online discussion, sustainability is an important issue. For communication strategies employed for the maintenance of interaction in a synchronous mode, Smith (2003) engaged language learners in jigsaw and decision-making tasks to examine sustainability of communication during the within-groups interaction. In his study, learners employed various compensatory strategies in task completion. Because the study was conducted in a synchronous mode, the communication strategies that the learners used to maintain the flow of interaction included substitution, framing, and filler, as well as politeness strategies. To code the communication strategies that the learners used to maintain the flow of interaction, Smith employed the Nijmegen model in his study about the compensatory strategies that the learners used to repair breakdowns when they had problems with linguistic competence to express their intentions during communication. According to the Nijmegen model, learners would react with the following. First, they would give up the messages (avoidance strategy) or revise original utterances (reduction strategy). Second, learners would ask for assistance from other interlocutors in providing missing information. Third, learners would use some other
compensatory strategies, including paraphrase, conscious transfer, and mime. His study suggested that learners employ various compensatory strategies to maintain interaction in a synchronous interaction.

In the discussions above about studies in synchronous CMC, the participants were engaged in small-group interaction. The following will review studies in large group discussions. For computer-assisted classroom discussion, Chun (1994) investigated first-year German students in computer-assisted classroom discussion and found that the participants gave feedback and requested clarification when they had not understood someone else. In her study, Chun observed that the participants sometimes used their L1 to express a particular unknown vocabulary item instead of paraphrasing those unknown words. With regard to the interactional features, the participants took the initiative in asking questions of others and expanding on topics, either those they themselves constructed or those suggested by others. The participants also asked for clarification and explanation for comprehension checks and provided feedback to others in the form of agreement of continuation or the topic. The length of turns varied from one sentence to one paragraph, and the complexity of sentence structures ranged from simple sentences to complex ones. The participants were also able to develop their sociolinguistic competence in greeting and leave taking, requesting confirmation or clarification, and apologizing.

Darhower (2002) suggested that the interactional features in chat rooms include intersubjectivity, off-task discourse, social cohesiveness, greeting and leave-taking, use of humor, identity exploration and role play, sarcasm/insults, and use of L1. His study also reported that participants in chat rooms had ownership of their discussions to construct a learner-centered environment for their sociolinguistic competence.

Thorne’s (1999) study reported that in computer-assisted classroom discussion speaker change occurred, turn order and size varied, and the content of discourse was not fixed. Results of his study also showed that the participants sometimes copied words from prior messages, which he termed “lexical mirroring” (p. 134). Repair mechanisms were used when dealing with turn-taking errors and violations because two parties might type at the same time. Online discussions needed repair mechanisms to adjust messages with miss-keying and surface level correction of orthographic and grammatical accuracy.
as well as pragmatic or semantic breakdowns. In his interview data, participants revealed that the scrolling text field provided an organic dictionary of lexical items in contextual use.

To summarize, in studies of synchronous CMC, learners engaged in dyads employed modification devices to interact with group members and gradually focused on forms because of direct feedback from peers in task engagement. By contrast, learners participating in classroom discussions were engaged in more open-ended “chat-type” discussions and took control over their discussions to practice their target language by means of social interaction. In these studies of synchronous CMC, breakdown and off-topic discussion occurred because of the traffic of learners’ postings and the rapid pace of interaction. In addition, either interaction in dyads or in large classroom discussion, the learners were likely to use words from prior messages in consequent turns to continue the discussion.

Asynchronous CMC Studies in Learner Interaction

At present, there is still a paucity of studies of learner interaction in an asynchronous mode. Sotillo (2000) investigated discourse functions and syntactic complexity in both synchronous and asynchronous communication. In her study, participants in the synchronous mode focused their discussions on the topics they were interested in, instead of shifting back to the discussions in the assigned readings even though the instructors attempted to redirect the discussion focus by jumping into students’ discussions in the middle. Deviation from the topic was due to the rapid-fire responses, and the discourse features were composed of greetings, imperatives, requests for clarification and information, and adversarial moves. By contrast, interactional features in the asynchronous mode consisted mainly of four types of postings: topic initiation moves, student responses, teacher response/comments, and student comments or responses to other students. The postings were long and remained focused. Sotillo argued that a time-delayed mode gave learners more time to produce syntactically complex language and that the participants used subordinate clauses. To conclude the investigation in learner interaction in synchronous and asynchronous modes, Sotillo argued that the interaction in a synchronous mode is similar to the one in face-to-face
while interaction in an asynchronous mode is similar to IRE patterns. In addition, the interaction in a synchronous mode uses modification devices to repair breakdown to maintain the flow of interaction while interaction in an asynchronous mode participants respond to comment on previous messages.

Lamy and Goodfellow (1999) looked at three types of exchanges emerging in asynchronous conferencing designed for discussing methods of vocabulary learning. The researchers categorized the postings into three types: monologues (messages containing no invitation to interaction), conversation-type messages (exchanges of a social nature), and reflective messages (conversations where the content was about language). The researchers suggested that reflective messages were the type that could bring the best effects on learning because they brought participants’ attention to conscious reflection when they discussed vocabulary learning in threaded discussions. The time-delayed feature in a threaded discussion forum provided participants time to ponder the messages before responding. However, participants suffered from sustainability of message exchanges because of lack of explicitness, discourse mishap, self-answer, and syntactic errors in the posted messages.

Scoller, Tsang, Li, Yung and Jones (1998) investigated learners’ multiple voices emerging in e-mail writing tasks. The study looked at how learners appropriated the voices of others and represented them in their own discourse when composing their responses. Results of the study showed that the interaction in e-mail communication was intertextual and polyvocal. The intertextuality was shown in learners’ responses by means of both direct and indirect discourse, including quotations, presupposition, negation, hedging, paraphrase, and irony. In this study, polyvocality occurred as texts or voices were embedded within other utterances including the appropriation of forms, styles, genres, registers, vocabulary sets, and other broad discourse types. The broad discourse types in the study referred to the concepts of interdiscursivity and was found in the participants’ use of English, academic practice, personal letter style, and the public discourse register due to the participants’ cultural background.

To conclude the studies in asynchronous CMC, Sotillo argued that IRE patterns emerged in the asynchronous mode under the instructor’s intervention. Her analysis of interaction patterns was at the superficial structural level of language functions of
messages rather than the process of meaning reconstruction among the postings. Without further analysis of meanings in different messages, results of the study do not show the process of how social interaction emerging among the participants assists them to complete assigned tasks. Lamy and Goodfellow’s study reported the types of message exchanges in a threaded forum and the problems in sustainability of interaction among native speakers. Scoller et al. focused on multiple voices in one-to-one interaction emerging in e-mail writing and reported polyvocality in e-mail writing tasks.

In this literature review in CMC studies regarding learner interaction in SLA, there is still a paucity in patterns of learner interaction in an asynchronous mode. Sotillo’s study suggests that IRE patterns emerge in learner interaction when there are interventions from the instructor. We still do not know how the learners will interact with one another, particularly when interacting without such interventions. Also, as for sustenance of learner interaction, Smith’s study in communication strategies was conducted in a synchronous mode. There are no studies in nonnative speakers’ strategies in maintenance of time-delayed nature of communication. Lamy and Goodfellow’s study pointed out that the time-delayed mode in a threaded discussion caused problems in sustainability of interaction. The participants in their study, however, were native speakers. We still do not know how or if second language learners will appropriate unknown words encountered in task engagement with the dual demands of comprehending unknown words in messages passively and also responding to prior messages productively. The investigation into multiple voices in learner interaction in the study by Scoller et al. was on one-to-one basis due to the interface of e-mail. Therefore, the present study was conducted to investigate interaction patterns between and among second language learners and their word appropriation strategies in a many-to-many threaded discussion forum without interventions from the instructor. The outcomes of the present study will help fill in the gap in the literature in collaborative CMC in SLA.

Because the current study explored patterns of learner interaction emerging in a threaded discussion forum and learners’ word appropriation strategies in task engagement, sociocultural theory with its emphasis on social interaction and notions of
word meaning in interaction were employed to frame the present study. The next section will discuss theoretical constructs in SCT pertinent to the present study.

**Sociocultural Theory in Collaborative CMC**

Kozulín (1998) states that “According to Vygotsky, there are three mediating agents: material tools, psychological tools, and the human mediator” (p. 3). This statement precisely points out the relationship between collaborative CMC and SCT: Computers are used as material tools to mediate learner interaction while language becomes a psychological tool to mediate human interaction via computers. As discussed in Chapter 1, text-based communication in CMC serves as a “thinking device”. The computer not only mediates learner interaction but also records the text-based interaction on the computer screen so that learners are exposed to an environment filled with affordances (van Lier, 2004), which are the postings from peers, to complete tasks. The constructs of sociocultural theory employed for this study will be discussed below.

**Scaffolding and Affordances**

In online discussion, the completion of tasks solely relies on peer interaction. Studies have shown that the computer can foster a great deal of interaction among participants (Please see Table 2 in this chapter). The retrieval of learner interaction on the discussion board provides less capable peers assistance from more capable peers to complete assigned tasks. Vygotsky’s concept of the ZPD is conceived as the distance between learners’ actual level, what the learners can do alone, and their potential level, what they can do in collaboration with others, more capable peers. With assistance that some learners receive from more capable peers, they perform from their present level to their potential level.

The association of the ZPD and scaffolding was first proposed by Wood, Bruner and Ross (1976), and then elaborated by researchers in the field of SLA to demonstrate how it occurs to assist learning (e.g., Donato, 1994; Guerrero & Villamil, 2000). Scaffolding plays a crucial role in peer collaboration in learning. Guerrero and Villamil (2000) review Wertsch and Bruner’s work and describe the association of the concept of
ZPD and scaffolding by saying, “the ZPD concept has been used in conjunction with the notion of scaffolding, which refers to those supportive behaviors by which an expert can help a novice learner achieve higher levels of regulation” (p.51). De Guerrero and Villamil (2000) conducted a study in L2 peer revision in a writing class to investigate the process of scaffolding. Their study suggested that L2 learners become active participants when engaging in the revision of their writing and that scaffolding in revision of writing is mutual rather than unidirectional. These findings corroborate the results of Donato’s (1994) earlier study in peer interaction.

Results of Donato’s study (1994) demonstrated how language learners are capable of scaffolding each other to complete tasks. In his study, language learners contributed their individual knowledge to help each other to finish the tasks collaboratively. Scaffolding in this study occurred in peer interaction; the completion of tasks was built on collective scaffolding. Thus, the process of task completion is the construction of co-knowledge from peers rather than from the guidance from adults. The social interaction emerging in the activity among the individuals leads to the completion of tasks.

In a similar study, DiCamilla and Anton (1997) investigated scaffolding in a speaking class. Participants in the study repeated words from previous utterances and used them to respond to their interlocutors. In this study, the repetition of words in dialogues served as a means of scaffolding through which learners picked up words or phrases from previous utterances and elaborated on them to maintain the interaction. During the process, learners helped each other to learn new words and completed the task collaboratively. These researchers have all concluded that with scaffolding from more knowledgeable peers, novices outperform their current level to their potential level within the ZPD. Peer collaboration for task completion also exists in similar notions, such as reciprocal teaching and collaborative dialogue.

Palinscar & Brown (1984), for example, conducted a study in reading classes and also suggested a similar process of how novices can receive assistance from more capable peers and take turns at being experts for each other, which they term “reciprocal teaching” (see in Wertsch, 1998). The participants in the study were instructed with different strategies of questioning, summarizing, clarifying, and predicting so that they could later use these strategies to proceed to reciprocal teaching when the teacher’s
instruction was gradually replaced by the participants’ reciprocal teaching as the progression of activity went on. Wertsch comments that reciprocal teaching is “a higher level of intersubjectivity with their teachers about appropriate strategic questions to pose when reading a text” (p. 130). Therefore, learners in reciprocal teaching are engaged in active dialogic processes with scaffolding from peers, teachers, and instruction of strategy use. This study demonstrates strategy use as another way of scaffolding in collaboration with peers and teachers, that is, between more and less capable people.

Swain’s (2000) notion of collaborative dialogue provides another perspective of scaffolding emerging within the process of problem solving tasks. Collaborative dialogue is viewed as “knowledge-building dialogue”; it is as she argues, “where language use and language learning can co-occur” (p. 97). In collaborative dialogue, language is used as a mediating tool for learners to mediate their interaction. Swain proposes that interlocutors in collaborative dialogue will notice the gaps in their imperfect linguistic expression and seek to solve their language problems in the process of interacting with other interlocutors. Collaborative dialogue thus provides language learners with opportunities to collaborate with other language learners in their language development. It is the semiotic process in which language learners build their knowledge while engaged in problem-solving tasks.

In terms of the operation of scaffolding, Wood, Bruner, and Ross (1976) hypothesize that successful scaffolding should include the following factors: a) recruiting the tutee’s attention, b) reducing degrees of freedom in the task in order to make it manageable, c) keeping direction in terms of the goals, d) marking critical features, e) controlling frustration, and f) modeling solutions (cited in De Guerrero and Villamil, 2000, p. 52). These factors clearly point out that scaffolding will not take place naturally. It needs precisely preset goals, well-designed procedures of tasks, and contingent feedback to support learners’ participation so that learners can reach expected performance under guidance.

As discussed previously, online discussion is text-based communication. The participants can benefit from the postings from more capable peers. They are exposed to an environment that is full of resources (linguistic form on the computer screen) that they can actively pick up on to assist them to finish tasks. Therefore, in addition to
scaffolding from peer interaction, the notion of affordance from an online environment is discussed below to provide insights into how language learners can benefit from engagement in online activities.

The term *affordance* originates from Gibson’s ecological theory of perception to “refer to a reciprocal relationship between an organism and a particular feature of its environment” (van Lier, 2000, p. 252). In an ecological approach learners are immersed in an environment full of linguistic forms. What language learners learn depends on their active participation in the activity, and what will become an affordance depends on the relationship between the organism and the environment. Van Lier applies this analogy to language learning and states, “if the language learner is active and engaged, she will perceive linguistic affordances and use them for linguistic action” (p. 252). This analogy fits in the learning environment in online discussions, in which language learners are exposed to an environment full of linguistic forms. Learners must actively participate in tasks and pick up the linguistic forms displayed on the computer screen to complete the assigned task with other participants. The online environment affords ESL learners the ability to appropriate the tasks through social interaction generated via the computer. The next section will discuss two opposing tendencies regarding social interaction in SCT and the concept of appropriation in task engagement.

**Intersubjectivity, Alterity, and Appropriation**

The completion of tasks in online discussion lies in social interaction emerging in activity. In SCT, social interaction is embedded in meaningful social contexts. Wertsch (1998) explores the implication of Vygotsky’s claims about intermental functions. He examines two tendencies, Rommetiveit’s intersubjectivity and Bakhtin’s alterity, and proposes that appropriation, tied to particular forms of intermental functioning, can transform interaction in the external plane to the internal plane.

Rommetveit’s (1979) notion of intersubjectivity emphasizes a temporarily shared social world in which interlocutors from different private worlds can communicate to reach a consensus (see in Wertsch 1998). Therefore, the use of the notion of intersubjectivity is to understand the process of meaning sharing in communication between two interlocutors to see how they gradually reach mutual understanding by
means of language. However, due to its limitations in the transmission of literal meaning, Matusov (1996) argues that “a single minded focus on intersubjectivity, where intersubjectivity is understood as sharing common understanding, may limit researchers to study only consensus-oriented activities…” (See in Wertsch, 1998). Lotman (1990) also criticizes intersubjectivity by arguing that “language as such, but one of its functions—the ability to transmit a message adequately” (p. 13). By contrast, to information transmission to reach consensuses in intersubjectivity, Lotman (1988) suggests that intersubjectivity should be incorporated with Bakhtin’s dialogic function, alterity, to provide complete communication models in social interaction. According to Bakhtin (1979), alterity puts a focus on “awareness of otherness”. With an emphasis on seeing oneself through the eyes of the other, alterity is the need to distinguish oneself from the other. Therefore, rather than sharing meaning, alterity is to realize the differences between one voice and another. Due to this, Lotman asserts that a text in alterity is not a passive receptacle, but a generator by incorporating, extending, or arguing against other utterances and thoughts.

Wertsch (1998) cites Bakhtin’s words to indicate how people understand utterances of others: “The fact is that when the listener perceives and understands the meaning (the language meaning) of speech…He either agrees or disagrees with it (completely or partially), argues it, applies it, prepares it for its execution, and so on…” (p. 117). Meaning in alterity is reconstructed as a result of conflict emerging from social interaction. The meaning co-construction in alterity is dynamic and multivocal because the intermental interaction is based on the discrepancy among conflicting voices. Wertsch (2000) comments on the distinction between intersubjectivity and alterity by stating that “In contrast to the universal function, which tends toward a single, shared, homogeneous perspective comprising intersubjectivity, the dialogic function tends toward dynamism, heterogeneity, and conflict among voices” (p. 22). The conflict existing between interlocutors makes the univocal (intersubjectivity) become multivocal (alterity).

Although Lotman (1988) criticizes univocal functions in intersubjectivity, he also emphasizes that both univocal function in intersubjectivity and multivocal functions in alterity can be found in some sociocultural settings and that one or the other plays an
important role in certain parts of activity in different historical moments. Wertsch (1998) agrees with Lotman and concludes the discussion about intersubjectivity and alterity by saying “…virtually every text is viewed as involved both univocal, information-transmission characteristics and hence intersubjectivity, as well as dialogic, thought-generating tendencies, and hence alterity” (p. 117). Therefore, in order for a whole picture of social interaction to emerge in activity, these two notions should not be examined in isolation although they are different in nature.

In addition to intersubjectivity and alterity, appropriation is also used to investigate the transformation process from the intermental phase to the intramental phase. In social interaction generated in purposeful joint activities, through participation in activity learners can be assisted by other more capable members and gradually master the practices. Leont’ev (1981) asserts that the higher mental processes can only be acquired “through interaction with others, that is, through interpsychological process” (p. 56). Wells (1999) calls this type of intellectual development appropriation.

With regard to the path of appropriation, learners are transformed due to continuous cycles of interaction with other participants. Wells (1999) proposes that appropriation involves continuous three-stage cycles, including the transformation of the learner’s mental processes, assimilation of reconstruction of the learner’s existing knowledge, and future mediation of action. He states:

First there is the transformation of the learner - a modification of his or her own mental processes, that changes the ways in which he or she perceives, interprets and represents the world; second there is a transformation of the artifact itself, as its use is assimilated and reconstructed by the learner on the basis of the learner’s existing knowledge; finally, in using the artifact to mediate further action, there is a transformation of the situation in which the learner acts which, to a greater or lesser degree, brings about change in the social practice and in the way in which the artifact is understand and used by other members of the culture (p. 137).

Transformation occurs when participants perceive their interaction with others, appropriate the task by infusing other participants’ knowledge, and finally become fully competent and independent participants through collaboration with other participants.
(Platt & Brooks, 2002). Wells asserts that “appropriation of cultural resources takes place through the learner’s participation in goal-oriented joint activity” (p. 137), and the notion of appropriation is associated with scaffolding. Rogoff’s (1995) work also supports these views and associates appropriation with participation and comes up with what she calls “participatory appropriation”, defined as “the personal process by which, through engagement in an activity, individuals change and handle a later situation in ways prepared by their own participation in the previous situation” (see in Block, 2003, p. 104). Block (2003) also notes, “appropriation is thus not just the passing of the external to the internal; it is the meeting of the external and the internal to form a synthesized new state … located in a third place, neither exclusively the ‘self’ nor ‘other’” (pp. 103-104). By means of appropriation, participants engaged in a joint activity can be transformed and advance to a higher knowledge level.

In SCT, language is viewed as a very important cultural artifact during participation in activity. Participants use language to incorporate their existing knowledge with assistance from other participants so that they can finally become more competent participants after participation in activity. The process of appropriation is a series of adjustments between self and others, and language is used as a tool for appropriation. According to Bakhtin (1981), language is generated between oneself and others, and words especially play a central role in the appropriation of discourses in the dialogic process. He says:

The word in language is half someone else’s. It becomes “one’s own” only when the speaker populates it with his intention, his own accent, when he appropriates the word, adapting it to his own semantic and expressive intention. Prior to this moment of appropriation, the word does not exist in an impersonal and neutral language, because it exists in the mouths of other persons, in the context of other persons, at the service of the purposes of other persons; therefore, one must expropriate the word and make it his own (p. 293-294).

This statement demonstrates an ongoing transformational process within which interlocutors take others’ words into one’s own by means of appropriation and adaptation. Word meaning therefore is crucial in the process of appropriation that
interlocutors use to shape their thoughts and reformulate new concepts in social interaction.

To summarize, intersubjectivity, alterity, and appropriation involve dynamic interaction emerging during joint participation in activity. All of them play different roles in certain areas in the progress of an activity. Participants share different views from individual different backgrounds, realize differences existing among each other, and take something from others to eventually become their own. The social interaction emerging during participation in an activity creates a continuum in which learners constantly reformulate concepts and transform themselves to reach a new identity. Appropriation thus exists during participation in activity in which the participants interact with one another to collaboratively accomplish assigned tasks. In the present study, the threaded discussion engaged many participants in text-based communication, who used their postings as “thinking devices” to accomplish assigned tasks. The next section will discuss functional dualism of texts in social interaction.

Functional Dualism of Texts

As discussed previously, online discussion is a text-based communication. Wells (2000) notes that dialogue in the oral mode leaves no record of what has been jointly constructed. By contrast, the written mode of communication in threaded discussion allows retrieval of interaction. Written texts thus have been considered as ‘thinking devices’ for knowledge construction (Harasim, 1990; Lotman, 1988; van Lier, 2000; Warschauer, 1997; Wells, 2000).

Lotman (1988) proposes a “functional dualism of texts in a cultural system”. In his view, texts fulfill two functions: One is to convey meanings adequately and the other is to generate new meanings. He argues, “The first function is fulfilled best when the codes of the speaker and the listener most completely coincide and, consequently, when the text has the maximum degree of univocality” (p. 34). The first transmission-like function of a text could be associated with Bakhtin’s notion of authority in interaction because of its unidirectional way of interaction. With regard to authority, Bakhtin (1981) argues that “the authoritative word demands that we acknowledge it, that we make it our own; it binds us, quite independent of any power it might have to persuade us internally;
we encounter it with its authority already fused in it” (p. 342). In an online environment, teachers’ roles are replaced by the tasks they design as well as the assigned texts they request the learners to discuss. In this respect, the assigned texts functioned as information sources for the learners to convey their meanings adequately in their interaction with others, which is similar to Bakhtin’ notion of authoritative voice that the instructors request the learners to “acknowledge” and “make it their own”.

The second function of a text is a dialogic function to generate new meanings. Wertsch (1991) comments that the second function is “grounded in the kind of multivoicedness that so concerned Bakhtin” (p. 74). Instead of serving as the function of information transmission, the second function of a text is heterogeneity of social languages, in which two unidirectional messages are involved. The unidirectional interaction thus turns into a bi-directional one, which gives rise to an interanimation of voices. The dialogic texts thus become a semiotic space for meaning construction. Lotman (1988) asserts that both functions of text can be found in any sociocultural setting and either one of them dominates certain areas in activity. Texts thus serve dual functions both for information transmission and for knowledge construction during interaction in activity. In online discussion, learner interaction is mediated by language. Language is used to convey meaning to regulate learners’ participation to complete joint activities. Word meaning in language has a significant role in social interaction. The next section, therefore, will discuss word meaning in communication.

**Word Meaning in Communication**

Word meaning is crucial in communication; without words nothing can be conveyed. According to Vygotsky (1986), “word meaning is an elementary cell… the meaning of every word is a generation or a concept” (p. 212). In online discussion, learners use words to formulate concepts for interaction and accumulate constructed knowledge to complete tasks. According to Vygotsky (1997), higher mental functions refer to logical memory, voluntary attention, creative imagination, planning, problem-solving, decision-making, and comprehension of language.
During completion of online tasks, language serves as a psychological tool to mediate interaction emerging in the activity. Learners’ higher mental functions have been raised by mediated activities because the psychological tool is used to regulate learners’ cognitive process with other participants in order to complete tasks. Vygotsky called the process semiotic mediation. Brooks and Donato (1994) explain semiotic mediation by stating, “For Vygotsky, linguistic signs are used to organize, plan, and coordinate one’s own actions or the actions of others” (p. 264). Therefore, the researcher analyzes the semiotic processes, especially the words used to convey the meaning to communicate with other participants to discover the struggle of participation in online discussion.

**Word Meaning in SCT**

Word meaning has a significant role in SCT. An investigation of how words are used in utterances and how word meanings are generated within an activity reveals what participants are thinking and what they are struggling with during task engagement. As Vygotsky states, “A word without meaning is an empty sound; meaning, therefore, is a criterion of ‘word’, its indispensable component. … the meaning of every word is a generalization or a concept” (1986, p. 212). In Vygotsky’s view, word meaning is “a phenomenon of thinking” and meaningful speech is “a union of word and thought” (p.212). He proposes that the unit of verbal thought is in word meaning and that “word meanings are dynamic rather than static formation” (p.217). Word meaning in SCT emerges in social interaction. Word meanings that the participants use to indicate their thoughts thus are dynamic and flow as the interaction continues.

Leont’ev (1997) explains SCT by saying, “Thus, for Vygotsky the study of the problem of generalization, the development of concepts, the problem of word meaning became the path to investigate the ontogenesis of thinking, which became an ever-center of his whole theory” (p. 26). Therefore, an investigation of thought starts from word meaning embedded in meaningful speech, which exists in interaction with other people. Leont’ev (1978) states that “[c] onsciousness is *co-knowing*, but only in that sense that individual consciousness may exist only in the presence of social consciousness and of language that is its real substrate” (p. 60). He further explains that consciousness is not
initiated within the mind naturally; consciousness is originated due to involvement in society. It is the product of human relationships with society. Therefore, thinking, though existing in the mind, is socially oriented, and an understanding of thinking in mental activity starts from words.

For Bakhtin (1981), in dialogic activity interlocutors appropriate words because “language, for individual consciousness, lies on the borderline between oneself and the other” (p. 293). Although word meaning can be consulted in a dictionary, the meaning will be appropriated according to the social context when used to interact with interlocutors because words carry different intentions from different people:

Prior to this moment of appropriation, the word does not exist in a neutral and impersonal language (it is not, after all, out of a dictionary that the speaker gets his words!), but rather it exists in other people’s mouths, in other people’s contexts, serving other people’s intentions: it is from there that one must take the word, and make it one’s own (p. 294).

This statement clearly demonstrates the process of how a word gets its meaning in a dialogic process. In dialogic activity, interlocutors gradually pick up word forms from other interlocutors’ mouths, adapt those words, and finally make those words their own. Therefore words in dialogue serve as mediational artifacts to connect oneself and others. Words take on their meanings when used in dialogue to serve interlocutors’ intentions.

To maintain interaction, interlocutors engaged in the dialogue need to make sense of words used in social contexts and select the words from the mouth of the other interlocutor. However, not all words can be appropriated and transformed into “private property” (Bakhtin, 1981, p. 294). Some words will never be taken even after the dialogue. Some stubbornly resist, and some remain alien and sound foreign. It is termed “resistance”. Language as a cultural artifact is used to mediate the dialogic process among interlocutors, and words bridge the intentions among interlocutors for communication. Whether words are taken from one mouth to the other reveals the process of thinking when interlocutors are involved in dialogic activities.

To summarize, word meaning exists in social interaction originating in society. It will be appropriated in order to fit into the social context as social interaction proceeds. Word meaning, being an “elementary cell” of thought, can be used to analyze the flow of
interaction (Vygotsky, 1986, p.212). Therefore, an analysis of word meanings embedded in utterances, especially the formation of concepts of words to convey meaning to maintain the flow of interaction, will reflect individuals’ struggle with the maintenance of flow in social interaction.

**Word Appropriation Strategies (WASs)**

When taking online courses that involve the asynchronous mode, adult ESL learners are assigned to read articles and then to discuss the issues derived from the reading with classmates on the discussion board. Most assigned readings will undoubtedly contain unknown words, and advanced ESL learners have to use these unknown words to discuss important issues with their peers to complete tasks. During task engagement, they will encounter unknown words from not only assigned readings but also in messages posted by their peers. ESL learners have to develop WASs to figure out unfamiliar words and use them to communicate with peers to complete assigned tasks.

Huckin and Coady (1999) argue that encountering unknown words in task engagement is incidental and contextualized. Task engagement provides learners opportunities to make sense of unknown words in meaningful contexts. Making sense of unknown words in task engagement is individualized and learner-based due to learners’ own selection of words from the task. Laufer and Hulstijn (2001) conducted a study about vocabulary in task engagement. They proposed that a construct of task-induced involvement for vocabulary development includes need, search, and evaluation. Laufer and Hulstijn consider involvement as a motivational-cognitive construct to be used to explain and predict learners’ success in task engagement. The need in this model is in a motivational dimension and is driven to comply with the task requirements. For instance, learners may have a need to comprehend unknown words when reading a text and then have to use those words in sentences as part of the requirements of tasks. Search and evaluation in this model are at two cognitive dimensions of involvement, including noticing and attention to the form-meaning relationship. Search in this model represents learners’ attempts to find the meanings of unknown words or find the L2 word forms to express their intentions. Evaluation refers to a comparison of a specific word with other
words, a specific word with different meanings, or an appropriate meaning of a specific word in the context. In the present study adult ESL learners were assigned to read articles and then discuss them in a threaded discussion forum. During task engagement, adult ESL learners had immediate needs to use words, search for words, and appropriate word meanings in task engagement. The task engagement provided them opportunities to make sense of unknown words during the process of reading and posting messages.

To deal with unknown words, Henriksen (1999) proposes that there are three dimensions of vocabulary development: 1) development from partial to precise comprehension, 2) development along the depth of knowledge dimension, and 3) development from receptive to productive control. Researchers have stressed that meanings of unknown words are allowed to be vague to learners at first but become more precise as activities progress (e.g., Henriksen, 1999). It is not necessary for learners to understand every word to comprehend text meaning. They ignore unknown words and continue what they are doing. In addition, “Learners employ a number of referential strategies and communication can be quite successful despite these gaps in lexical knowledge” (p. 311). The referential strategies are based on linguistic and contextual cues. Also, it is very likely that language learners will look up unknown words in a dictionary to get word meaning immediately (Fraser, 1999; Gass, 1999; Newton, 2000). However, vocabulary researchers assert that the retention of word meanings gotten from a dictionary is very shallow, so word meaning will be forgotten easily. Strategies, including referential, ignoring, and consulting a dictionary, are very common for unknown word processing (Fraser, 1999; Gass, 1999; Newton, 2000).

In online discussion learners are driven by the activities and try strategies to appropriate unknown words to maintain interaction under communicative pressure. Except for receptive strategies to comprehend messages, participants in online discussion also need to have productive strategies to respond to prior messages. Smith (2003) investigated communication strategies in a synchronous mode. In his study, he employed communication strategies from the Nijmegen project. The communication strategies in this model are called compensatory strategies. When learners realize their linguistic limitation to express their intentions, they are likely to employ three strategies. First, they avoid replying to the messages or revise the original utterance (avoidance and
reduction strategies). Second, they appeal for help from other interlocutors. Third, they employ compensatory strategies, including avoidance, paraphrase, conscious transfer, appealing for assistance, and mime. The participants employed various strategies discussed above to maintain their interaction in synchronous online tasks.

Conclusion

In this chapter, the researcher has reviewed the nature of collaborative CMC and its application to language teaching and learning. A brief review of previous collaborative CMC studies in SLA helps identify the paucity of research in the field: There is a need to investigate learner interaction and communication strategies in an asynchronous mode.

With an emphasis in social interaction, sociocultural theory is employed as the theoretical framework of the study. Important constructs in SCT including scaffolding from more capable peers and affordances from an environment were presented to demonstrate learner interaction in an online environment. Interactions in social spaces, including intersubjectivity (meaning sharing to reach mutual understanding) and alterity (discrepancy in different perspectives to be aware of otherness) have been discussed to demonstrate complete communication models. Appropriation, associated with the concept of the ZPD, informs the process of knowledge co-construction among learners during completion of online tasks. Appropriation here in the current study is to focus on appropriation of word meaning to investigate how participants in a threaded discussion forum appropriate unknown words encountered in task engagement to maintain the flow of interaction. In the next chapter, the methodology and procedures used to conduct this study will be discussed.
CHAPTER THREE
METHODOLOGY

Introduction

When taking online courses, advanced adult ESL learners face the dual challenges of interacting with other participants to complete assigned tasks while dealing with unfamiliar words to maintain the flow of interaction. The threaded discussion forum has been used in online courses in the past decade. However, in SLA we still do not know how advanced adult ESL learners interact in the threaded discussion forum, that is, whether they will benefit from social interaction to complete tasks. We also do not know much about their struggles with participating in such a forum, especially when they encounter unknown words but have an immediate need to reply to messages to sustain the flow of interaction. Thus, the researcher sought evidence about how advanced adult ESL learners appropriate unknown words encountered during task engagement to understand their struggles with the sustainability of interaction. Two research questions guided the present study:

1.0 What patterns of interaction emerge during participation in a threaded discussion?

1.1 Under what circumstances do the roles of expert and novice emerge during task engagement?

1.1.1 Who initiates each thread to start an argument in the threaded discussion?

1.1.2 Who provided argumentative ideas within and across threads to shift ongoing arguments to a new direction?

1.1.3 Who posts messages containing words identified by other participants as unknown but needed for task completion?

1.2 How do the functions of the postings sustain the flow of arguments?

1.3 How do multiple voices emerging during task engagement serve as mediational tools for expansion of arguments as well as meaning co-construction regarding words identified as unknown before participation?
2.0. Is there any evidence demonstrating adult ESL learners’ appropriation of unknown words when participating in the threaded discussion forum, and if so, how do they do it?

To capture the moment-to-moment changes of learner interaction emerging in threaded discussions and their appropriation of unknown words encountered during task engagement, the researcher employed a qualitative research methodology. The study investigated how adult ESL learners interact with one another within and across threads to accomplish assigned tasks. The researcher approached this study by means of descriptive and explanatory qualitative research methods to investigate developmental processes of social interaction emerging in the threaded forum and word appropriation strategies (WASs) employed for sustenance of interaction. Because the present study was conducted in an online discussion board, learner interaction was text-based. The tracking device in the computer captured the learners’ moment-by-moment progress in activity. The messages posted on the discussion board were downloaded and converted into text-based transcripts for data analysis, which allowed the researcher to examine learners’ social interaction in the threaded discussion and to identify learners’ WASs. As Gunawardena et al. (1998) point out:

Transcripts give us participants’ own statements, which are certainly the most direct evidence of what they know. Transcripts also give us the opportunity to follow the interaction between participants in the give-and-take of a conference; if knowledge is indeed socially constructed within a group of participants, analyzing this interaction should give us a view of how that knowledge was co-constructed in the specific instance (pp. 139-140).

This statement clearly illustrates the strength of transcript analysis in investigation of social interaction in computer conferencing, especially the co-construction process in the emergence of “give-and-take of a conference” in the quotation above. The researcher analyzed the downloaded transcripts to look for patterns of learner interaction in the threaded forum. Also, an analysis of the transcripts provided evidence of the WASs that the participants employed for sustainability of discussion in an asynchronous mode.
In the present study the researcher assigned low-advanced and advanced adult ESL learners to read controversial articles and then to argue for and against controversial issues deriving from the assigned readings. Data analysis was based on Lotman’s (1988) notion of functional dualism of texts, Wertsch’s (1998: 2000) notion of interaction in social space, and Bakhtin’s (1979) notion of awareness of otherness to investigate how the participants appropriated multiple voices when arguing a concept from different perspectives. The analysis of learner interaction in the present study was a genetic and developmental analysis of “multiple voices” emerging during task engagement (Wertsch, 1998). The next section is a discussion of the pilot study used to guide the present study.

Pilot Study

The researcher conducted a pilot study near the end of a seven-week session at the Center for Intensive English Studies (CIES) in the fall of 2003. The results of the pilot study were used to shape the present study as well as to revise procedures for formal data collection. In the pilot study, five adult ESL learners enrolled in an intensive English program participated in a threaded discussion. They were asked first to read a controversial article about whether or not students should wear school uniforms. As they read the article, they were instructed to highlight unknown words and then to fill out a pre-task Vocabulary Knowledge Scale (VKS) to indicate their knowledge of individual vocabulary items before task engagement. They then engaged in a threaded discussion without intervention by an instructor.

The VKS was developed by Paribakht and Wesche to evaluate learners’ incremental vocabulary development in task engagement (1993; 1997). The continuum of vocabulary knowledge learning is divided into five scales:

I. I don’t remember having seen this word before.

II. I have seen this word before but I don’t know what it means.

III. I have seen this word before and I think it means ______ (synonym or translation)

IV. I know this word. It means ______ (synonym or translation)
V. I can use this word in a sentence. e.g.: __________ (if you do this section, please also do section IV)

Vocabulary knowledge is complex and multi-faceted (Waring, 2002). This five-part scale in the VKS was used to measure advanced ESL learners’ progressive degrees of word knowledge in task engagement, which starts from the complete unknown, the partially known, and finally a complete knowing. The VKS was used to record a developmental rather than a static process of vocabulary development in task engagement. By conducting a pre-task (Appendix A) and a post-task VKS (Appendix B), the researcher located words about which the participants developed better understanding during task engagement to analyze their WASs to maintain the flow of interaction for task completion.

After the completion of a pre-task VKS, the participants were required to post at least three messages, more than 30 words in length each. The data were collected in the threaded discussion forum on Blackboard and converted into transcripts for data analysis. The threaded discussion lasted for about 100 minutes, with a ten-minute break in the middle. The participants posted 32 messages within the eighty-minute threaded discussion. A fifteen-minute whole-class discussion was conducted immediately after the online participation about the participants’ attitudes toward this online activity. During the whole-class discussion, they were asked to recall their participation in the threaded discussion, especially how they confronted unknown words encountered during task engagement, namely their WASs. They reported that the online discussion was very interesting because of the responses received from other participants.

The threaded discussion forum can accommodate many participants to discuss a controversial issue at the same time. The forum of threaded discussion linked all messages with the same topic together. Therefore, messages within a thread were discussions about the subject of the thread by different participants from opposing perspectives. The conversation within the thread was multi-voiced about an argument of the idea of financial burden. For example, the following thread shown below in Figure
3.1 consisted of 11 messages about financial burden from four different participants\(^1\) representing the two opposing sides of a discussion about the same issue.

Within the thread, financial burden, the participants argued against one another to defend their group’s positions. They were involved in multi-voiced discussions about financial burden because they were arguing the same topic from different perspectives, which allowed the participants to co-construct the meaning of financial burden.

According to the assigned task, the participants were requested to cite evidence from the assigned reading to support or argue against the opposing group. Because the reading was a controversial article, the supporting and counter evidence was juxtaposed. The following were two messages extracted from the thread, financial burden, to illustrate how the participants used multivoicedness emerging in task as a mediational tool for meaning construction regarding financial burden:

1o: If the students are required to wear a uniform, they have to buy them. Many parents can't afford the cost of school uniforms. Even though, there are some place where they can buy uniforms with low price, they need extra money. To make matters worse, if someone has many children, it costs very expensive.

1s: If we are going to stop doing thing because of money, we are going to stuck in life. To educate your child is part of what you program before having your baby. If you don’t have money there are places that sale uniform very cheap, or you can ask for financial help. Besides, if your child use uniform is a kind

\(^{1}\) The name of each participant was changed to a code to preserve his/her anonymity. For example, 1s was a participant from the supporting group while 1o was a participant from the opposing group.
of way to save money because your child is not going to use his or her regular clothes, so your expenses are going to reduce.

In this example, Io identified the evidence from the assigned reading that buying uniform was a financial burden on a family. She also imbued counter evidence in her message, which the opposing group would cite and argue against her. She argued that even though parents could buy cheap uniform somewhere (counter evidence to her group position), it was extra money to spend and caused a financial burden to a family. In this case, Io identified the flaw in the counter evidence that even though cheap uniforms could be found, buying them was still a burden if there were many children in a family. Is responded that the parents could ask for financial help, and that the wearing of uniforms could save money because the students did not have to buy many regular clothes. In this case, Is borrowed the idea regarding the high cost of school uniforms from a prior message and transformed it into her own posting by arguing about the high cost of regular clothes if there were no mandatory school uniform policy. The thread labeled financial burden was, therefore, an argument between the cost of school uniforms and high expenses on regular clothes, which caused financial burden to a poor family.

In addition to using evidence from the assigned reading to support their group position, some participants presented situations of school uniform policies in their countries and used their personal experiences as examples to foster their arguments. Many participants used the subjunctive mood to start their messages to dispute the position of the prior messages and then continued on their own argument. For example, one participant posted a message “If we are going to stop doing things because of money, we are going to stuck in life”, followed with, “If you don’t have enough money, ...” and finally ended with “Besides, if your child can use uniform, …” In this example, the respondent used three sentences in the subjunctive mood to identify the flaw in a prior message, to provide a situation to argue against the opposing group, and finally to state her own position. The use of subjunctive mood provided new perspectives to what had been argued previously to expand the meanings of the argument within the thread. The social interaction between participants thus occurred as voices in conflict due to different assigned group positions.
Discussions within a thread could be viewed as a kind of “collaborative dialogue” (Swain, 2000) among the participants to develop the concept of unknown words. For example, to maintain the flow of interaction regarding unknown words encountered during task engagement, the concept financial burden was posted in different messages in different phrases, such as can’t afford the cost, extra money, have to buy, financial help, and spend extra money for in different messages. The text-based communication in the collaborative dialogue thus provided assistance to a potential novice who could use the postings from more capable peers as a “thinking device” to infer the word’s meaning in contexts (Harasim, 1990; Lotman 1988; Warschauer, 1997; Wells, 2000).

In addition to the assistance through the collaborative dialogue in each thread, there were other findings from the pilot study. First, in the whole-class discussion conducted immediately after online participation, the participants in the pilot study said that they knew different words: Some participants did not know the word financial while other participants did not know the word burden. The participants who knew the unknown word used it in their messages directly, and the participants who did not know the word encountered it in meaningful contexts and figured out its meaning by reading messages posted by other participants during task engagement. Therefore, the online activity built up learners’ interdependence in the learning community. That is, during the activity, the participants moved back and forth, playing the roles of experts and novices, depending upon which thread they were reading and posting messages about. In a threaded discussion forum, the completion of the task required the participants to initiate many threads. Therefore, the roles of experts and novices fluctuated in different threads. The researcher investigated learner interaction across different threads to learn how participants might appropriate different words from one another as the activity advanced. This finding in the pilot study suggested the occurrence of a type of “collective scaffolding” (Donato, 1994) among participants. This was further investigated in the present study.

Second, different participants might have different word appropriation strategies to maintain the flow of interaction when encountering unknown words during task completion. In the whole-class discussion about participation in threaded discussions, some participants said that they ignored unknown words once they could comprehend the
meaning of messages. They used simple words to replace unknown words when replying to prior messages. These participants used either an inferential strategy to get word meaning in contexts or an avoidance strategy, ignoring unknown words in order to maintain the flow of interaction (Fraser 1999; Gass,1999; Newton, 2000; Tarone et al, 1976, see in Smith 2003). For example, one participant said that she did not know the word financial, but she began to use the word in her first message while replying to another participant. In her reply, she wrote:

I understand your point, but in my country I had to wear uniform too and for me was so much easier to use uniform, I didn't have to worry about where did I buy muy clothe, or if is old or not, because if my clothe was old my classmate would make fun of me, because I didn't have the money to buy good cloth, expensive clothe. Besides if I didn't have the money in that moment I could ask for a **financial** help and I could pay it in a long time a very low price. I think that people give too many excuses for something that is so simple and easy to do, is for tho future of children and people just keep giving excuses. When somebody really want to do something they just do it and don't worry about the money, when we talk about education we have to think that uniform in a child is part of learning and understanding about life and that in many cases in life you have to do what somebody else whant you to do, like using unoform. Is a way to form your child since they are little.

When analyzing this message, the researcher wondered if the participant had just copied the word without knowing its meaning or if she had already inferred its meaning in the context when she first used it. Because of time constraints, however, the researcher was not able to interview the participant to clarify the above question. This finding, nevertheless, seems to suggest that individuals have different WASs to maintain the flow of interaction in asynchronous discussions.

Third, although threaded discussion forums have the capability of linking messages with the same subject together, some messages within a thread were off-topic postings. The participants did not reply with the right content as the subject heading of the thread requested.
Overall, the pilot study engaged advanced adult ESL learners in a meaningful social context in which they were divided into two groups to argue for or against a controversial issue, the mandatory school uniform policy. The participants collaboratively interacted with one another to argue the same concepts from different perspectives to complete assigned tasks. According to the assigned task, the participants were instructed to identify evidence from the assigned reading and then used the key words or phrases in the evidence to initiate threads to support their team position. To argue against the opposing group, the participants had to identify the flaw in a prior message and continue on with counter evidence to state their position. Thus, the interaction emerging in threaded discussion was social and multi-vocal.

However, some questions remained unanswered due to the time constraints of data collection. The pilot study was conducted close to the end of an academic session, which made it difficult to find the participants for introspective post-task interviews to clarify questions when analyzing the transcripts regarding WASs. This problem was avoided in the formal study by moving the data collection to the middle of a seven-week session.

Research Design

The purpose of the present study was to investigate emergence of social interaction when low-advanced and advanced ESL learners argued about controversial issues in a threaded discussion forum. Meanwhile, during the forum, the participants encountered unknown words and had an immediate need to comprehend their meanings or even to use them to maintain the flow of interaction. They therefore needed not only to interact with other participants but also to develop word appropriation strategies to complete assigned tasks. The relationship between Research Question #1 and Research Questions # 2 can be shown in the following figure:
To answer these two research questions, the procedures in conducting the study include three phases. In the first phase, the researcher needed to set up the study for data collection. During Phase II the researcher collected discussion of controversial issues in a threaded discussion forum on Blackboard to answer Research Question #1 about learner interaction and Research Question #2 about word appropriation strategies. After a preliminary analysis of data collected in Phase II, Phase III was to clarify questions emerging during the preliminary analysis. Table 3.1 below shows the procedures for conducting the study and procedures for the preliminary data analysis.
### Table 3.1
**Task Procedures, Data Collection, & Preliminary Data Analysis**

<table>
<thead>
<tr>
<th>Task procedure</th>
<th>Phase I: Pre-task preparation</th>
<th>Phase II: Controversial discussions in a threaded forum: Pre-task (Two Thursdays)</th>
<th>Task (Two Fridays)</th>
<th>Phase III: Post-task interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ss: 1. Completed a consent form. 2. Completed a personal information sheet. 3. Received an orientation for participation on Blackboard.</td>
<td>Ss: 1. Read two articles: Assisted Suicide &amp; Dressing for Success. 2. Highlighted unknown words and identified evidence for arguments. 3. Completed a pre-task VKS.</td>
<td>Ss: 1. Engaged in pre-planning in small group discussion. 2. Began threaded discussions. 3. Completed a post-task VKS.</td>
<td>Ss: 1. Reviewed their postings and responded to interview questions.</td>
</tr>
<tr>
<td></td>
<td>The researcher: 1. Contacted the site. 2. Chose subjects. 3. Prepared task reading materials. 4. Reserved comp. labs. 5. Grouped and registered subjects on Blackboard.</td>
<td>The researcher: 1. Informed subjects. 2. Collected Ss’ consent forms. 3. Collected Ss’ information sheets. 4. Oriented Ss to participate on BB.</td>
<td>The researcher: 1. Collected pre-task VKS. 2. Collected assigned readings.</td>
<td>The researcher: 1. Interviewed Ss to clarify WASs and purposes of using questions in their postings.</td>
</tr>
<tr>
<td>Data collection</td>
<td>1. Participants’ personal information sheets 2. Consent forms.</td>
<td>1. Pre-task VKS.</td>
<td>1. Prints of transcripts of threaded discussions. 2. Post-task VKS. 3. Copies of assigned readings.</td>
<td>1. Interview data</td>
</tr>
<tr>
<td>Data analysis</td>
<td>1. Used pre-task VKS to predict E/N regarding word knowledge used for tasks. 2. Built individual profiles 3. Made a chart of individuals’ unknown words.</td>
<td>1. Completed a chart of comparing pre/post-task VKS. 2. Reviewed transcript data regarding individuals’ performance in threaded discussion. 3. Listed Qs in index cards for post-task interviews regarding encounters of unknown words and uses of questions in postings.</td>
<td>1. Transcribed interview data. 2. Analyzed postings to determine participants’ roles (E/N). 3. Coded the functions of the postings with two co-coders for inter-reliability. 4. Investigated multiple voices within a thread and across threads. 5. Finalized codes of WASs</td>
<td></td>
</tr>
</tbody>
</table>
Procedures for Data Collection and Preliminary Data Analysis

The procedures for the conduct of study and data collection consisted of three phrases. The following section is a detailed description of procedures for data collection and procedures for the preliminary data analysis during data collection before getting into formal data analysis to answer RQ # 1 and RQ # 2.

Phase I: Pre-Task Preparation

In the pre-task preparation stage, the researcher completed the following tasks to set up the study. She contacted the study site to obtain permission, chose and informed the subjects, and obtained their consent to participate (Appendix C). The researcher also prepared task materials, reserved computer labs for the study, set up the course website on Blackboard, and grouped and registered the subjects on the discussion board. Because the participants did not have experience of participating in a threaded discussion forum, she also gave the participants an orientation for task engagement and participation on Blackboard by providing task guidelines (Appendix D) and hands-on technical help one day before data collection.

Site of the study. The present study was conducted at the same site as the pilot study, but with different learners. The researcher contacted the Director of CIES at the Florida State University and obtained permission for the study. The director recognized the growing trend of online courses in American institutions of higher education and agreed that the conduct of the study was beneficial to his students because they would face the challenge of taking online courses after they were admitted to community colleges and universities. The researcher also obtained approval from the human subjects committee for the participation of the subjects in the study (Appendix E).

Participants. There were 17 participants in the study, 10 females and 7 males. Their ages ranged from 20 to 30 years. They were low-advanced and advanced adult ESL learners enrolled in the intensive English program preparing to study in American universities or community colleges. They were from different cultural and linguistic backgrounds: 6 from Korea, 5 from Japan, 2 from Taiwan, and 1 each from Brazil, Venezuela, Italy, and Kuwait. These participants were volunteers pulled out of their
reading and writing classes due to the combination of advanced reading and writing skills needed in online discussion. Among these 17 participants, 13 of them planned to study in graduate schools or community colleges after they left CIES.

Based on Scarcella’s (2002) definition of advanced students’ proficiency, it was determined that the participants should be able to extract accurate information from texts and use metalinguistic abilities and higher mental thinking skills to make sense of difficult texts to complete the task. The criteria for the students to be placed in low advanced and advanced classes were determined by the center’s placement procedures, including a pre-TOEFL test, a cloze test, a writing sample, and an oral interview. Their proficiency level had already been finalized by a meeting of the center director and the nine instructors based on the results of the testing procedures.

The name of each participant was changed to a code to preserve his/her anonymity when randomly grouped and registered on Blackboard. The code used to represent a participant was created by a combination of one’s own assigned number and the letter assigned to his/her team. For instance, if a participant was in a supporting group, s/he was assigned as 1s, 2s, 3s, or 4s and so on. Likewise, if the participant was in an opposing group, s/he was assigned as 1o, 2o, 3o, or 4o and so on. In doing so, the researcher knew messages were posted by a given participant in a supporting or an opposing group when moving to the phase of data analysis.

Design of materials. The tasks in the present study required the participants to read two controversial articles: one about assisted suicide (Appendix F) on the first Friday and the other about a mandatory school uniform policy (Appendix G) on the second Friday. These two articles were selected from two advanced reading textbooks for ESL learners. The researcher consulted with the director of the center to insure that the readings were appropriate for the participants’ proficiency level.

As discussed in Chapter Two, instructors in online courses have very little control over learner interaction; they mostly play the role of facilitators. They use tasks to mediate learner participation and learning. Therefore, the researcher put some possible unknown words in the articles in boldface to draw participants’ attention to use those words to label threads, although the participants were not explicitly told the words to be used to label the threads. Also, the texts were double-spaced to leave enough space for
the participants to highlight unknown words, take notes, or write down word meanings if they used dictionaries.

Reading of articles. The participants read the assigned reading one day before participating in the threaded discussion forum. They read each article twice. The first time the instructor read the article aloud, and the participants followed the reading to get the main idea. The second time the participants read the article silently to themselves and were asked to highlight any unknown words in it and also to identify evidence they would use to support their own group position and argue against the opposing group in the coming threaded discussion. The task in the study was to argue about controversial issues deriving from the assigned readings. Therefore, no matter whether the participants were in a supporting or an opposing group, they had to pay attention to evidence for both sides in order to complete the controversial discussion successfully.

After reading the article, the participants completed a pre-task Vocabulary Knowledge Scale (VKS) to indicate their starting points of vocabulary knowledge in the assigned readings. The use of the VKS has already been discussed in connection with the pilot study.

Orientation of task engagement. Although most participants had experience in using e-mail and doing homework on the computer, none had participated in a threaded discussion forum. The researcher thus gave them an orientation to reduce their anxiety. The researcher provided the participants task guidelines with a detailed description of task procedures, such as requirements of message posting, labels for threads in a discussion forum, and steps to go to the website on Blackboard (Appendix H). The participants were divided into their groups and had hands-on practice with technical assistance from the researcher.

Although the researcher gave the participants task guidelines to regulate their postings, some posted off-topic messages and did not elaborate their arguments while some participants mixed up their group positions in participation in Task I. The researcher and the instructor reviewed the postings and selected good and bad examples from their postings in Task I to give the participants an orientation in how to post good arguments in the next participation.
Data collection. In the preparation stage, the participants completed a consent form and a personal information sheet. The personal information sheet included the participants’ names, purposes of studying at the center of intensive English studies, nationalities, first language, experiences of using the computer, and years of learning English. The researcher used the data to build participants’ individual profiles for later data analysis. The data were used to provide a description about the participants’ backgrounds in this qualitative study.

Phase II: Controversial Discussion in a Threaded Forum

The task. The selection of task was crucial in the present study because it was conducted in an online environment in which the instructor’s role was decentralized and used organized learning activities to guide learner interaction. The tasks were conducted individually on two Fridays, about 80 minutes for each task each time.

On the day of the forum, the participants logged into their individual group discussion board on Blackboard and discussed in a synchronous mode the evidence they identified from the articles and words or phrases they would use to label threads before starting the asynchronous threaded discussion. The small group discussion was thus a pre-planning stage to prepare their participation in the threaded discussion forum. Because the interaction in small group discussion was in a synchronous mode, the participants received immediate responses from their peers. This pre-task stage allowed them an opportunity to construct a consensus with their group members about participation in the coming threaded discussion. Its purpose was to enhance fluency, complexity, and accuracy of the task (Robinson, 2001; Yuan & Ellis, 2003).

During online discussion, each participant sat next to a participant from the opposing group so that they could not talk with their group members during task engagement, which created a sense of distance in online courses for the investigation of the present study. Their interaction was recorded completely online, both in small group discussions and in controversial discussions during the threaded forum.

After the synchronous small group discussion was finished, the participants went to the threaded discussion board on Blackboard to start their threaded discussion on the assigned readings. Although the participants were participating at the same time in the
computer lab, the interaction was still considered asynchronous because the responses they received from one another were time-delayed due to the specific task instruction that the participants needed to post messages of at least 30 words in length as well as the time-delayed feature of a threaded forum. 17 threads were created in Task I and 11 threads were created in Task II. During participation, in many circumstances, the participants were posting messages in different threads and did not respond to one another in a timely fashion.

According to the task design, the participants were instructed to provide evidence from the assigned readings and to elaborate on that evidence from the examples found in the assigned readings or from personal experiences or cases from their cultural backgrounds to support or argue against the opposing group. Thus, when they used evidence from the assigned readings to support their group position, they imbued the authors’ voices into theirs (Hall, 1995). Because the articles were controversial and the participants were assigned a group position, the interactions became univocal between themselves and the authors as well as multivocal among the participants themselves.

Meanwhile because of the request to use evidence from the assigned readings, the participants were forced to use vocabulary from the assigned readings for their arguments so that the researcher could investigate how these advanced ESL learners appropriated unknown words encountered during task engagement. The participants were told to use each other (their postings) as resources and to use dictionaries as a last resort. As Bakhtin (1981) asserts, words obtain their meanings in interaction with others rather than from the meanings found in a dictionary. The consulting of a dictionary was coded as one of the WASs. In order to keep track of this strategy, the participants were asked to write down the meanings of the words they consulted in the dictionary in the space next to the unknown words on the article. The article was collected for data analysis about WASs after each task was completed. There was no intervention about the reading assignment or instruction about unknown words, either from the instructor or the researcher. The teacher and the researcher were available only to provide technical support when the participants had problems operating the computer or still had questions about task procedures.
At the end of the task, the participants filled in a post-task vocabulary knowledge scale, which was used to compare with the pre-task VKS to record their vocabulary development during task engagement. Results of comparing the pre-and pos-task VKS along with preliminary analysis of postings were used to prepare for post-task interviews to clarify WASs and questions emerging in the preliminary analysis.

Data collection. The data collection about the threaded discussion took place on two consecutive Fridays. The data collected in Phase II included the pre-task VKS, pre-task small group discussions, the postings of discussion of controversial issues on the threaded discussion board, the post-task VKS, and the articles used for discussion prompts. These data were used to answer the research questions.

Among data collected in Phase II, messages from the threaded discussion forum were primary data used to analyze emerging patterns of learner interaction in a threaded discussion forum and evidence of WASs. Secondary data included a pre- and a post-task VKS, which were used to provide insights into the participants’ appropriation of unknown words encountered resulted from task engagement. Articles used during task engagement were also collected and used as one of the codes of WASs, a dictionary-consulting strategy.

Data analysis. The researcher began to analyze the raw data collected in Phase II, including the pre-and post-task VKS and the postings in the threaded discussion. The researcher first compared the pre- and post-task VKS and made the results of the comparison into two vocabulary charts regarding each participant’ word knowledge from the assigned readings. She then reviewed the postings to investigate how unknown words identified by certain participants were used in messages. Results of the preliminary analysis showed that the participants embedded more unknown words in their postings in Task I than in Task II. This finding suggested that the participants’ better understanding of unknown words result from the frequency of unknown words embedded in postings. In order to come a better understanding of this preliminary finding, the researcher decided to ask the participants to compare and contrast the unknown words in each task.

In addition to the finding regarding the frequency of unknown words embedded in postings, the results of the preliminary data analysis also revealed that some participants used words they claimed as unknown before their participation in their messages while
some were able to participate in threads containing unknown words. The researcher wanted to know if the participants had already guessed the words’ meanings when they used them in their replies. If yes, they were asked how they inferred the words’ meanings. If not, they were asked how they were able to respond to messages or participate in the threads containing unknown words. With regard to the use of questions, similar to the results of the pilot study, during the preliminary analysis of the postings, the researcher found that different participants had different purposes for using questions in their postings.

Based on these preliminary findings, the researcher therefore decided to put the post-task interviews in Phase III on three focuses: 1) the participants’ different strategies regarding appropriation of unknown words encountered during task engagement to maintain the flow of interaction; 2) the participants’ attitudes toward the two tasks; and 3) the participants’ various purposes for embedding questions in their postings.

Before the post-task interviews, the researcher went through the vocabulary charts of the comparison of pre- and post-task VKS and the postings to learn individual participants’ performance in the threaded discussion. She listed questions about the three focuses discussed above on index cards and used them to interview individual participants to clarify the listed questions. From here data collection moved to Phase III, post-task interviews, to clarify questions emerging during the preliminary data analysis in Phase II.

**Phase III: Post-Task Interviews.**

**Participants.** The researcher interviewed all participants to clarify questions emerging during the preliminary data analysis in Phase II.

**Data collection.** During post-task interviews, the researcher gave the participants their postings and asked them to clarify the questions she listed in individual index cards. The interviews were not conducted on the computer because the participants would not have remembered what they had posted in the threaded discussion forum if they had not had the postings at hand. The interviews were tape-recorded and transcribed purposefully to clarify confusion when the researcher analyzed the raw data in Phase II. Data collection was completed in Phase III, and formal data analysis started. Because the
present study is a qualitative study, it is crucial to discuss its trustworthiness before entering formal data analysis.

Establishing Trustworthiness

In the present study, the researcher employed a qualitative approach to explore patterns of interaction emerging among advanced adult ESL learners in a threaded discussion forum and word appropriation strategies used for maintenance of interaction when encountering unknown words for task completion. According to Denzin and Lincoln (1994), qualitative researchers “seek answers to questions that stress how social experience is created and given meaning” (p. 4). The researcher was interested in emerging social interaction and learners’ struggles with the flow of interaction when encountering unknown words. It was an emergent process that the researcher attempted to address instead of the traditional methods in “quantitative studies emphasizing the measurement and analysis of causal relationships between variables, not processes” (p. 4). Therefore, the traditional terms, such as validity, reliability, and objectivity used in a quantitative approach are not applicable to the present study.

Lincoln and Guba (1985) propose the term, trustworthiness, to judge the quality and rigor of natural inquiry and suggest four criteria, credibility, transferability, dependability, and confirmability to meet the criteria of trustworthiness. These four terms, credibility, transferability, dependability, and confirmation in naturalistic inquiry are approximate equivalents for the conventional terms internal validity, external validity, reliability, and objectivity in quantitative studies. The following section discusses the criteria associated with the present study.

Credibility

Guba and Lincoln (1989) describe credibility as being about the same as internal validity and refer to the confidence in the truth of the data and interpretation. Lincoln and Guba (1985) suggest five major techniques: credible data (produced by extended engagement, constant observations, and triangulation), external check on the inquiry process (peer debriefing), negative case analysis (more and more available data),
referential adequacy (materials available to document findings), and member checking (direct test of findings and interpretations with the human sources).

With regard to credible data, although the focus in the present study was on the threaded discussion, the researcher extended data collection before and after the threaded discussion. The participants completed a pre- and a post-task VKS to indicate their vocabulary development that resulted from their participation in the threaded discussion. The researcher immediately began a preliminary data analysis to compare the pre- and post-task VKS and posted messages to further investigate the problem she found in the pilot study, such as various purposes for using questions in postings and individual participants’ word appropriation strategies to deal with unknown words encountered during task engagement. The data collection thus involved three phases, including pre-task, during-task, and post-task. In so doing, the researcher collected credible data for triangulation. In addition to collecting credible and various sources of data for triangulation, the researcher used two tasks to compare and contrast the results of each task to seek whether there was a consistency across tasks.

To provide an external check to avoid any possible researcher bias in the process of inquiry, two external observers helped analyze the data. These two external observers had taken a course in sociocultural theory, so each had an understanding of social interaction within the theoretical framework. Observer A received his Ph. D in the fall of 2004. Observer B was a doctoral student in Multilingual and Multicultural Education. Both of them had also taken qualitative research method courses and had training in coding qualitative data. The researcher, nevertheless, gave each an orientation about data coding for the present study. These two external observers played the “devil’s advocate” role (Lincoln & Guba, 1985, p. 309) to help keep the inquirer honest. The inter-observer agreement was computed by the following formula:

\[
\frac{\text{Number of Agreements}}{\text{Number of Agreements + Number of Disagreements}} \times 100 \quad (\text{Tawney and Gast 1984})
\]

Because the study was conducted on an electronic discussion board, the computer recorded learners’ moment-by-moment changes so that the data met referential adequacy. Introspective post-task interviews with the individual participants verified certain WASs before conclusions were made about the findings. With the data collected from
introspective interviews, the researcher obtained direct information from the participants and corrected any biases made solely from transcripts analysis. The external observers’ checking and verification process also increased the credibility of the present study.

To summarize, credibility is highly related to the process of data collection and interpretation. The researcher carefully designed tasks used for data collection to gather enough data and interpreted the collected data by means of verification strategies, including a parallel analysis from two external observers, various data for triangulation, and also error correction after a preliminary analysis.

Transferability

Transferability is similar to external validity in quantitative research. External validity refers to the generalization of findings, the representatives of subjects participating in a study, and conditions of studies. However, most qualitative research investigates purposive subjects at a certain time and context; it cannot specify the external validity of an inquiry (Lincoln & Guba. 1985). Instead, the naturalist provides a “thick description” for someone who is interested in the results to determine if a transfer can be made. Transferability in naturalistic inquiry depends on similarities between sending and receiving contexts. The researcher provided sufficiently detailed descriptions of data in contexts and reports the results with sufficient detail and precision to allow readers of the study to make their own transferability judgments to other similar contexts. Qualitative researchers thus do not generalize the findings but rather provide enough description and representative sampling and specific setting of gathering data for readers to apply the study to their situations.

In the current study, the researcher provided backgrounds of the participants, the site of the study, the tasks, and reading materials used as prompts for data collection. Data from the electronic discussion forum were converted into transcripts to provide a complete picture of learner interaction in an asynchronous mode. The researcher used the 219 messages posted in Task I and 144 messages in Task II to investigate how the participants interacted with one another within a thread and across threads in the two assigned tasks. The transcript data and the interview data with the participants were used to investigate how the participants interacted with one another as well as how unknown
words were appropriated across messages to complete tasks. The researcher did not generalize the findings but provided specific processes of data collection and analysis and confined claims about the results of the study to the subjects and setting of the study.

**Dependability**

Dependability refers to the replication of the study and is concerned with the stability of data over time, which is parallel to reliability to a quantitative study. Guba and Lincoln (1989) propose that the concept of auditability be the measure of consistency in qualitative research. An auditor examines the process by which the accounts are kept. The researcher has to clearly describe each stage of the research process, explaining in a systematic manner what was done and why so that an inquiry auditor can examine the product—the data, findings, interpretations, and recommendations—and attests that it is supported by data and is internally coherent.

In the present study, the researcher documented the data collection process and described it in sufficient detail to leave a clear audit trail for an auditor. In this study the external observers played the same role as the auditor to attest that the findings, interpretations and recommendations were completely derived from the collected data.

**Confirmability**

Confirmability refers to the objectivity or neutrality of the data, which is to make the research available for an audit. The researcher will have to document the audit trail being available for an agreement between two or more independent people about the data’s meaning or interpretations. All data need to be tracked to its source so that the interpretations and outcomes are corroborated by the data instead of the imagination of the researcher (Guba & Lincoln, 1989). The process is to make the research a product of the focus of the inquiry rather than the biases of the researcher.

In the present study, the researcher documented every detail of the process of data collection and presented evidence based on the data collected from the electronic discussion board. She discussed the results interpreted logically from the systematic data collection procedures and also reached an agreement with the results from two external observers and under the supervision of a major professor and the dissertation committee.
Therefore, more than two persons confirmed data collection and analysis of the present study before it was completed. Consistent verification strategies establish reliability and validity in qualitative research (Morse, Barrett, Mayan, Olson, & Spiers, 2002).

To summarize, a qualitative study builds up its trustworthiness by means of credibility, transferability, dependability, and confirmability by means of thick descriptions of the purposive sampling, study setting, data collection procedures and analysis. The researcher was very sensitive to every detail during the process of data collection and analysis and was very willing to make any adjustments to any problems emerging during the process to reduce biases in the results of the study.

Credibility of the Researcher

Another important issue in qualitative research is the researcher’s perspective and competence in the field of the study because the researcher holds greater control over the development of research questions and method used. As discussed previously, the researcher has to be honest and open-minded during the process of data collection and analysis. As Morse et al. (2002) point out, “It is essential that the investigator remain open, use sensitivity, creativity and insight, and be willing to relinquish any ideas that are poorly supported …” (p. 11). The researcher’s understanding of the study background and experiences in the field are crucial for him/her to be sensitive during the conduct of a study.

The researcher of the present study is an experienced EFL/ESL teacher. She received a BA in language education in Taiwan and a MS in TESOL in the U. S. Her teaching experiences include teaching English as a foreign language in Taiwan and as a second language in southern California. She is also a learner of English as a foreign language. The experience in teaching and learning English provided her with experiential insights into the language learning process.

For using technology for language learning, the researcher has three years experience using the computer lab for language learning in Taiwan. She has also conducted an ethnographic study about learner autonomy in the computer language lab in the Spanish Division in the Department of Modern Languages and Linguistics at FSU during the spring semester, 2002. In addition to majoring in Multilingual & Multicultural
Education, the researcher has a minor in instructional technology in the Department of Educational Psychology and Learning Systems. In order to conduct a good study, the researcher took an online course in the spring of 2003. During this period, she not only received first-hand experience of taking an online course but also observed how the instructor conducted online instruction. The personal experience of taking an online course herself has provided insights into the conduct of the study and data collection and analysis. Therefore, except for the experiences in language learning and teaching, the knowledge accumulated from theory and the practice of using technology for learning enables the researcher to conduct a credible study. Before the end of the completion of the present study, the researcher presented two papers regarding computer-mediated communication at professional conferences: One was at the CALICO (Computer Assisted Language Instruction Consortium) conference in Pittsburgh in 2004, and the other was at the UNTELE (Use of New Technologies in Foreign Language Teaching) conference in Compiegne in France in 2005.

Finally, in a qualitative study, familiarity with the site of data collection is also crucial to the results. Although the researcher was not an instructor at the site of data collection, she has been very familiar with the faculty and the Director of CIES during the period of study with some of them in the same program and during the period of the pilot study. During the period of data collection, the researcher built up close relationships with the participants by joining their activities and chatting with them during breaks and lunch hours. The efforts had been paid off: The participants treated her like their friend and were willing to participate in post-task interviews for her to finish data collection. After discussing the trustworthiness of the present study, the next section will discuss formal data analysis to answer RQ # 1 and 2.

**Formal Data Analysis**

Before getting into formal data analysis, the researcher would like to use Figure 3.3 to review the preliminary data analysis during data collection:
There were two research questions in the present study. The first research question focused on patterns of learner interaction emerging among the participants in a threaded discussion forum. Grounded in SCT, the researcher focused on three aspects to answer this research question: 1) the roles of expert/novice emerging within and across threads during task engagement, 2) the functions of the postings to maintain the flow of interaction, and 3) emerging multiple voices in the threaded discussion forum to generate more arguments to complete assigned tasks as well as meaning co-construction regarding unknown words. The second research question focused on word appropriation strategies that participants employed to deal with unknown words encountered during task
With regard to the roles of the learners in task engagement, the researcher analyzed the data collected from the pre- and the post-task VKS and message transcripts collected from the threaded discussion forum. To complete the assigned tasks, the participants needed to identify evidence from the assigned readings to initiate threads, provide argumentative ideas to generate more arguments to support their group position, and also use unfamiliar words needed for task completion. The role of an expert emerged in the following three circumstances:

1) The participants who were able to identify the arguments deriving from the assigned readings and used them to initiate threads to lead arguments within a thread to complete tasks.
2) The participants who were able to provide argumentative ideas regarding the discussion topics to generate more discussion across threads; and
3) The participants who knew unknown words identified by other participants and used those words in their postings to scaffold novice’s participation in the threaded discussion.

Likewise, a novice was considered to be the participant who did not demonstrate the capabilities described above. According to task demands the participants needed to argue about controversial issues by means of reading and posting messages in a threaded discussion forum. An analysis of messages posted in a threaded forum showed how experts led the development of threads and the completion of tasks.

Research Question 1.1.1: Initiators of Threads

Procedures for Obtaining Data
To investigate the emergence of the roles of E/N regarding the initiator of each thread, posted messages in the threaded discussion were printed off for data analysis. According to the feature of a threaded forum, all messages were linked within a thread and labeled with a theme the initiator decided to discuss within the thread. The initiator of each thread was displayed on top of it. The researcher first identified the initiator of each thread and then analyzed the transcripts to learn how the theme that the initiator set was argued within each thread. She wrote a summary for each thread to prepare for inter-observer agreement.

Procedures of Establishing Trustworthiness
The researcher gave Observer B all postings from both tasks and the summaries of threads that she prepared for the check of inter-observer agreement. Observer B was asked to check the initiator of each thread and the theme set for arguments within each thread. She reviewed all postings within each thread and the summaries to see whether she agreed with the summaries. Inter-observer agreement regarding the themes and summaries of each thread was calculated using the following formula:
Number of Agreements + Number of Disagreements
An agreement was counted each time the external observer agreed with the summary written for each thread. That is, 16 summaries for Task I and 11 summaries for Task II. Then the interobserver agreement was computed at 100%.

Research Question 1.1.2: Providers of Argumentative Ideas

Procedures for Obtaining Data
The purpose of this question was to identify who was able to provide argumentative ideas to shift ongoing arguments into a new direction during the development of threads. Each time a new argumentative topic was brought into the argument within and across threads, the researcher listed the new idea of argument along with the time and the initiator. The list of argumentative ideas helped determine the themes of arguments emerging in the overall threaded discussion. She then could identify who were providers of argumentative ideas to lift an ongoing argument to a higher level.

Procedures of Establishing Trustworthiness
The researcher provided Observer B with the list of argumentative ideas, their initiators, and all postings. The observer was asked to double check the initiator of each argumentative idea and whether or not she agreed with the argumentative ideas on the list. She reviewed all postings within and across threads and recorded her agreement. Inter-observer agreement regarding the initiators of argumentative ideas was calculated using the following formula:

\[
\frac{\text{Number of Agreements}}{\text{Number of Agreements} + \text{Number of Disagreements}} \times 100
\]

An agreement was counted each time the external observer agreed with the findings regarding the providers of argumentative ideas. The inter-observer agreement was computed at 100%.
Research Question 1.1.3: Word-Knowledgeable Participants

Procedures for Obtaining Data

The purpose of this research question was to discover how unknown words identified by participants were embedded in the postings to scaffold novices’ understanding of these words needed for participation in the tasks. During the preliminary data analysis, the researcher had already made two charts to compare the individual participants’ pre- and post-task VKS in each task, which showed that the participants had different degrees of word knowledge regarding the words in the assigned readings.

The researcher first used the vocabulary charts to learn individual participants’ vocabulary knowledge development resulted from the participation in threaded discussions. She then investigated the postings to learn whether or not words identified as unknown were used in postings as well as the frequency of those words embedded in messages. The transcripts of interview data were used to provide more evidence because during the interview the participants were provided the postings from the threads containing the unknown words identified by them and were asked if they inferred word meanings from the postings when responding to the postings in threads containing unknown words.

In order to focusing the discussion, the researcher chose four words from each task because these words were identified by most participants as unknown and were used to label threads on the discussing board. After the words were chosen for investigation. The researcher reviewed all posted messages and pulled out messages containing the chosen unknown words so that she could identify who embedded unknown words in their postings to provide other participants with contextual assistance to infer the word meanings in their postings. The pulled-out messages were grouped together so that the researcher could use them to provide evidence to report the findings.

Procedures of Establishing Trustworthiness

The researcher provided Observer B with the vocabulary charts, lists of labels of threads in two tasks, and messages containing unknown words pulled out from different
thread. The researcher explained the rationale regarding the selection of words for investigation. After that, the observer was asked to make a simple check whether or not she agreed with the chosen words for investigation. The observer followed the procedures that the researcher did. She reviewed the charts and the lists of labels in each task and recorded her agreement. Inter-observer agreement regarding the words chosen for investigation was calculated using the following formula:

\[
\frac{\text{Number of Agreements}}{\text{Number of Agreements} + \text{Number of Disagreements}} \times 100
\]

An agreement was counted each time the external observer agreed with the words chosen for investigation regarding word knowledge needed for task completion. The inter-observer agreement was computed at 100%.

**Research Question 1.2: The Functions of the Postings**

According to Bakhtin (1986), “Every utterance must be regarded primarily as a response to preceding utterances of the given sphere” (p. 91). An analysis of the functions of the postings revealed how the participants maintained the flow of social interaction on the discussion board. The researcher investigated how messages were composed to argue about controversial issues deriving from the assigned readings.

**Procedures for Obtaining Data**

During the preliminary data analysis, the researcher prepared index cards for the post-task interviews. She listed questions regarding individual participants’ various purposes for embedding questions in their postings. After transcribing the interview data and reviewing the posted messages, the researcher determined codes for the functions of the postings. The coding fell into seven categories, but some categories were broken down into several sub-categories in order to provide a detailed analysis. Table 3.2 below shows the codes of the functions of the postings and their definitions:
Table 3.2
Codes of Functions of the Postings

<table>
<thead>
<tr>
<th>Functions of the Postings</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Different purposes for using questions in messages</td>
<td></td>
</tr>
<tr>
<td>1.1 Challenging previous messages with questions without expecting answers</td>
<td>QNA</td>
</tr>
<tr>
<td>(to show disagreement)</td>
<td></td>
</tr>
<tr>
<td>1.2 Challenging previous messages with questions expecting answers</td>
<td>QEA</td>
</tr>
<tr>
<td>1.3 Asking for clarifying previous postings.</td>
<td>QCL</td>
</tr>
<tr>
<td>1.4 Convincing someone to agree with their opinions.</td>
<td>QCV</td>
</tr>
<tr>
<td>2. Uptake to expand arguments.</td>
<td>UTC</td>
</tr>
<tr>
<td>2.1 Up-take from previous messages to continue discussions</td>
<td>UTIT</td>
</tr>
<tr>
<td>2.2 Up-take from previous messages and then incorporate and transform to expand arguments.</td>
<td></td>
</tr>
<tr>
<td>3. Examples to support group positions</td>
<td>AR</td>
</tr>
<tr>
<td>3.1 Arguing with examples from assigned readings</td>
<td>PE</td>
</tr>
<tr>
<td>3.2 Arguing with examples from personal opinions (or personal experiences)</td>
<td></td>
</tr>
<tr>
<td>4. Off-topic messages within a thread</td>
<td>OT</td>
</tr>
<tr>
<td>5. Verification of assigned tasks</td>
<td>VT</td>
</tr>
<tr>
<td>6. Arguing definitions of controversial issues in the article, such as definition of</td>
<td>ADF</td>
</tr>
<tr>
<td>living comparing with “vegetative state” or ‘revive’.</td>
<td></td>
</tr>
<tr>
<td>7. Replying to further explain what had been said previously.</td>
<td>RFE</td>
</tr>
</tbody>
</table>

The following section discusses codes in each category. First, question-answer exchanges play an essential role in instruction (Nystrand & Gamoran, 2005). Although there was no instructor’s intervention in the present study, many participants used questions in their positing for arguments. The questions were embedded at the beginning, in the middle, or at the end of their postings. When preparing for individuals’ post-task interviews to further investigate their uses of questions for arguments, the researcher went through each participant’s postings in Task I and II and listed the messages in which each participant embedded questions on the index card. During the post-task interviews, the researcher asked the participants to review their postings containing questions and to recall their purposes for using questions in their postings.

The final coding of uses of questions in postings was primarily based on the interview data with the participants along with results of coding with two external observers discussed in establishing trustworthiness. The uses of questions were finalized into four types, including QNA, QEA, QCL, and QCV. The participants used questions
for the following purposes: identifying flaws in prior messages to challenge the opposite group rather than expecting answers to their questions (QNA); asking the opposite group to provide answers to their problematic arguments in messages (QEA); asking for clarifications about unclear arguments in prior messages (QCL); and using tag questions to convince the other group to agree with what they said (QCV). The different purposes for using questions extended the arguments to accomplish the assigned tasks.

Second, in addition to various purposes for using questions for arguments, uptake occurred when the participants challenged prior messages. The incorporation of a previous argument in their responses either expanded or transformed the argument into a new direction. The uptake was coded as UTC when the argument stayed within the same scope of argument in previous messages but was coded as UTIT when the argument was incorporated and transformed into a higher level of argument. The uptake usually started with phrases as the following:

1. Yes,…
2. But if…
3. Even if…
4. As you said,…
5. No,…
6. But…
7. So,…
8. You are right…
9. I agree with you, but…
10. Yes, I agree with you, but…
11. Regardless, … we should…
12. I know what you mean, but if…
13. On the other hand, …

Although the participants were assigned to argue against the opposing group, in addition to arguing disagreement, they sometimes partially agreed with the opposing group. Phrases such as “You are right, …,” “Yes, I agree with you, but…,” and “Yes, but…” revealed that the participants also shared some sort of partial agreement with the argument from the opposing group during the semiotic mediation of arguing about
controversial issues, which was closely tied to “intersubjectivity” (Wertsch, 1998, p.117). The emergence of intersubjectivity and alterity in uptake will be further discussed in the third aspect, multiple voices.

Third, according to task requests, the researcher requested the participants to provide evidence to support their group positions rather than just saying ‘agree’ or ‘disagree’ with the controversial topics. They either used evidence found in the assigned readings or applied personal experiences, cases they knew, or prior knowledge regarding the assigned topic to elaborate their arguments. When the participants used the evidence from the assigned readings to support their group position, the authors’ voices “were imbued with” the dynamics of peer interaction in threaded discussions (Hall, 1995). The participants thus transmitted the authors’ voices to dynamics of peer interaction. However, when the postings imbued with the voices of the authors were picked up and challenged by the participants from the opposing group, interaction became dialogic for the participants from different group to co-construct and reformulate the arguments in prior messages.

Fourth, the participants also posted off-topic messages, especially in Task I. As mentioned previously, the subjects in the present study did not have prior experiences participating in a threaded discussion. Some of them felt excited about participating anonymously in the threaded forum where they played with other participants, guessed each other’s identities, and chatted with one another about various events at the language center as well as classroom matters, such as upcoming quizzes and guest speakers in class while participating in the threaded discussion. These messages were coded as off-topic messages.

Fifth, some messages were posted to verify the requirements of assigned tasks. These messages were coded as VT. The present study was conducted in an asynchronous mode, and the participants had only about 15 minutes to discuss with their group members in small group discussion before they started threaded discussion. Once they began to post messages in the threaded forum, they had no opportunities to discuss with other participants to verify the assigned tasks. For example, a participant from the supporting group felt like naming his team after the discussion had already begun while
some participants reminded others about what should be included or not included in their discussion as well as the length of the posting.

Sixth, some messages were posted to argue about controversial situations, such as that of being in a vegetative state, in a coma, and of being revived from a coma. Within these messages, the participants argued about the controversy existing in the situations described above. These messages were coded as ADF because the participants challenged what had been defined in prior messages and redefined those situations from their group’s perspective. The situations were defined and redefined due to the different group positions.

Finally, the last code of the functions of the postings is RFE, which occurred when the participants posted messages to further explain what they had said previously. They either added more argument into what they had posted previously if they thought they did not say enough or replied to respond to someone who challenged them after they posted messages. RFE also expanded the argument during the process of task completion.

**Procedures of Establishing Trustworthiness**

Two external observers coded the data with the researcher: Observer A coded Task I and Observer B Task II. Before coding, the researcher met with each external observer individually and gave each a copy of Table 3.2 along with explanations for how the codes were defined. She also provided them samples of coding she had finished in advance to instantiate coding procedures. In addition, the researcher gave them a copy of the assigned article used for each task so that they could distinguish evidence used to support the group’s position was from the assigned readings or from personal experiences or opinions.

After the two external observers finished coding the postings. The researcher met with each to compare results of coding individually. The disagreement came up mainly in the two categories: the purpose for using questions in their postings and the distinction between UTC and UTIT. When the disagreements with the use of questions in postings occurred, the researcher and the external observers referred to the interview data (which had been transcribed for clarifications) to finalize the coding. The disagreements
regarding UTC and UTIT occurred because the researcher set strict standards for coding UTC and UTIT. After explaining the differences between these two codes, the researcher and each external observer came to a consensus before finalizing the codes. Inter-observer agreement regarding the functions of the postings was calculated using the following formula:

\[
\frac{\text{Number of Agreements}}{\text{Number of Agreements} + \text{Number of Disagreements}} \times 100\%
\]

Because the coding was finalized before reaching a consensus with each external observer, the inter-observer agreement was computed at 100% for each task.

**Research Question 1.3: Multiple voices**

According to Wertsch’s (1998; 2000) notion of interaction in social space, two opposing tendencies, intersubjectivity and alerity, “are part of an integrated, dynamic picture” (p.21), the analysis of multiple voices included intersubjectivity as well as alerity. However, due to the task design, participants were requested to argue about controversial issues, the researcher put a special focus on the concept of alterity from Bakhtin (1979) to analyze how voices in conflict illustrated the process of how the participants borrowed, adopted, and transformed other voices into voices of their own during task completion. As Scoller et al (1998) argue, the analysis of multiple voices is not to analyze the structure of a text but to investigate how a person utters the text borrowed from other voices to accomplish the social interaction. The researcher thus analyzed posted message to discover intertextual links between them.

The investigation of multiple voices allowed the researcher to analyze how multiple voices engendered more arguments for task completion and also meaning construction regarding unknown words encountered during task engagement, especially when the participants embedded unknown words identified by other participants in their arguments. The encountering of unknown words embedded in messages allowed the participants to use the postings as “thinking devices” to infer their meanings with contextual assistance. The analysis of multiple voices therefore included meaning construction for expansion of argument to complete assigned tasks as well as meaning
co-construction regarding unknown words encountered to maintain the flow of arguments.

**Procedures for Obtaining Data**

To track the flow of multiple voices emerging in a threaded discussion, the researcher analyzed all messages posted on the discussion board within and across threads to determine themes of arguments regarding the assigned topics. The messages with a related theme were pulled out of different threads for investigation. According to the different times at which the messages were posted, the researcher tracked how a certain theme was initiated and was then supported by group members as well as opposed to by the participants from the opposing group. For example, with regard to the legality of the practice of euthanasia, the taking of people’s lives was argued by drawing a parallel to taking the lives of animals in Task I. Similarly, a high cost of school uniforms in Task II was borrowed and revoiced to argue that if there were no mandatory school uniform policy, the cost of regular clothes was even higher.

After finishing pulling out messages regarding a specific theme within or across threads, the researcher synthesized the messages posted by both sides to show how the same argumentative topic was argued by different participants within and across groups. These synthesized sentences would be presented in Tables in two tasks to show an overview regarding how the same argumentative topics deriving from the assigned readings were argued in the opposite perspectives. The researcher later used posted messages to illustrate how the arguments flowed across messages.

**Procedures of Establishing Trustworthiness**

Data analysis in this question contained two parts. One was the synthesis of messages with a certain theme, and the other was discourse analysis regarding the flow of interaction among messages. With regard to the synthesis of the postings from both groups, Observer B was asked to first review the sorted messages concerning each argumentative idea and then read the synthetic sentence to ensure that the synthesis was from messages. With regard to the discourse analysis to track how multiple voices flowed within and across groups, there was no need of inter-observer agreement because
posted messages were directly used for data analysis and interpretation of the findings. The inter-observer agreement regarding the synthesis of messages was calculated using the following formula:

\[
\frac{\text{Number of Agreements}}{\text{Number of Agreements} + \text{Number of Disagreements}} \times 100
\]

The inter-observer agreement was computed at 100%.

**Research Question 2: Word Appropriation Strategies**

The second research question focused on word appropriation strategies to investigate how the participants confronted unknown words encountered in threaded discussion. Smith’s (2003) study investigated communication strategies in a synchronous mode. The participants employed various compensatory strategies to maintain the flow of interaction, including avoidance, reduction, paraphrase, conscious transfer, and mime strategies. However, the present study was conducted in an asynchronous mode in which the participants could not receive immediate responses from peers and have more time to read and respond to messages. The researcher expected different strategies emerging during task engagement.

Because participation in the threaded discussion involved both reading and posting messages, the researcher decided to separate the WASs into two categories: WASs employed to develop an understanding of unknown words and WASs employed to respond to messages or to participate in threads containing unknown words.

**Procedures for Obtaining Data**

The data used to answer this research question were from two charts of comparing the pre- and the post-task VKS, two lists of labels of threads from each task, the assigned readings, transcripts of interview data, and messages posted in the threaded forum.

**WASs Employed for Getting Meanings of Unknown Words.** As discussed in the literature review, the encountering of unknown words in a threaded discussion forum is similar to the encountering of unknown words in reading because the participants
interacted with one another by reading and posting messages. Therefore, when reading messages containing unknown words, the participants used various inferential strategies to infer meanings of unknown words embedded in prior messages (Fraser, 1999; Gass, 1999; Newton, 2000). In addition, in the present study the participants were allowed to consult the meanings of unknown words from a dictionary. This strategy was identified from the articles that had been collected during data collection in Phase II. Therefore, before data collection, the researcher assumed that WASs used for developing an understanding of unknown words would include inferential and dictionary consulting strategies.

During the post-task interviews, the researcher found that different participants had a variety of strategies to infer meanings of unknown words. She further investigated this finding while collecting data. After transcribing the interview data, the researcher broke down the inferential strategy into five categories, including inferring meanings from: 1) the arguments in postings (AG), 2) similar words in their L1 (L1), 3) knowledge of prefixes or word roots (PF), 4) the contexts of the assigned readings (AD), and 5) association of unknown words with known words (WA). Table 3.3 illustrates WASs used for developing a better understanding of unknown words encountered when reading messages:

Table 3.3
WASs Employed for Developing Meanings of Unknown Words

<table>
<thead>
<tr>
<th>WAS</th>
<th>Definitions and examples</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inferential</td>
<td></td>
<td></td>
</tr>
<tr>
<td>strategies</td>
<td>1. Guessed meanings of unknown words in arguments.</td>
<td>AG</td>
</tr>
<tr>
<td></td>
<td>2. Transferred similar words in their L1 to the words in English, such as Spanish, Portuguese, and Japanese speakers who transferred similar words in their L1 to get meanings of unknown words.</td>
<td>L1</td>
</tr>
<tr>
<td>WAS</td>
<td>Definitions and examples</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 Used knowledge of prefixes and word roots, such as mono-, trans-, pro-, -gnosis (monotonous, transplant, prognosis) to guess word meanings when unknown words were embedded in postings.</td>
<td>PF</td>
</tr>
<tr>
<td></td>
<td>4. Guessed meanings of unknown words from the context of the assigned article, such as euthanasia.</td>
<td>AD</td>
</tr>
</tbody>
</table>
Table 3.3 –continued

<table>
<thead>
<tr>
<th>WAS</th>
<th>Definition</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidance</td>
<td>1. Did not participate in the thread containing unknown words.</td>
<td>AV</td>
</tr>
<tr>
<td>Conscious copy</td>
<td>2. Inferred meanings and used the exact unknown words in their replies.</td>
<td>CC</td>
</tr>
<tr>
<td>Paraphrase</td>
<td>3. Used other words or phrases to express the concept instead of using the unknown word directly, such as using ‘recover’ to replace ‘revive’ and using ‘the same’ to replace ‘monotonous’.</td>
<td>PP</td>
</tr>
<tr>
<td>Task engagement strategy</td>
<td>4. Used the opposite meanings of the unknown words or phrases in prior messages in their replies because the participants learned that they were participating in controversial discussions, such as using ‘cheap’ to respond to messages in thread labeled ‘financial burden’.</td>
<td>TS</td>
</tr>
</tbody>
</table>

WASs Employed for Responding to Unknown Words. WASs employed to respond to messages and participate in threads containing unknown words consist of four categories, including 1) avoiding to respond to messages or participating the threads containing unknown words (AV); 2) consciously copying unknown words from prior postings (CC); 3) using their own words to paraphrase the concepts of unknown words (PP); and 4) using task engagement strategy to respond to messages or to participate in threads containing unknown words (TS). Table 3.4 lists WASs used to respond to messages or participate in threads containing unknown words.

Table 3.4
WASs Employed for Composing Responses

<table>
<thead>
<tr>
<th>WAS</th>
<th>Definitions and examples</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidance</td>
<td>1. Did not participate in the thread containing unknown words.</td>
<td>AV</td>
</tr>
<tr>
<td>Conscious copy</td>
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<td>TS</td>
</tr>
</tbody>
</table>

The researcher selected four words from each task to investigate WASs: coma, euthanasia, revive, and vegetative from Task I, and burden, monotonous, discipline, and mandatory from Task II. These words were chosen for three reasons: First, these words had high frequency of being used in postings for arguments. Second, these words were used to label threads. Third, most participants identified them as unknown before
participation and needed to develop WASs to maintain the flow of interaction. After
determining the words for investigation of WASs, the researcher used the interview data
and postings to illustrate each one of the WASs the participants employed to answer this
research question.

Procedures of Establishing Trustworthiness

With regard to coding of WASs, Observer B was asked to code the data. She was
provided with the two VKS charts, two lists of labels collected from each task, transcripts
of interview data, and Tables 3.3 and 3.4 regarding explanation of coding schemes. The
researcher explained to Observer B the codes regarding WASs in both tables. Several
examples of coding were provided with explanations regarding the procedures of coding.

The inter-observer agreement regarding WASs was calculated using the following
formula:

\[
\frac{\text{Number of Agreements}}{\text{Number of Agreements} + \text{Number of Disagreements}} \times 100
\]

The inter-observer agreement regarding WASs used for developing a better
understanding of unknown words was computed at 92%. The disagreement occurred
when the external observer coded word appropriation strategies used to comprehend
unknown word ‘burden’. She thought that the participants “avoided” the unknown word
‘burden’. However, the researcher explained to her that the strategy should be coded as
WA rather than AV because the participants not only avoided the word ‘burden’ but also
further associated it with the meaning of ‘financial’ to obtain partial understanding of this
word. After the explanation, the researcher and the external observer reached 100%
agreement with the coding regarding WASs used for composing responses.

Conclusion

The qualitative methodology used in the present study explored patterns of learner
interaction emerging in a threaded discussion forum among adult ESL learners. An
analysis of messages posted by participants demonstrated how the participants interacted
collaboratively to complete the discussion of controversial issues in the threaded forum.
In addition, an analysis of the messages and verifications of WASs with individual participants revealed the participants’ struggles in appropriation of unknown words for the maintenance of the flow of interaction during task engagement.

In this chapter, the researcher discussed the conduct of the study and process of data collection and analysis. Trustworthiness proposed by Lincoln and Guba (1985; 1989) has been employed to justify the quality of the present study. Credibility, transferability, dependability, and confirmability in qualitative research have been discussed to parallel to the internal validity, external validity, reliability, and objectivity in quantitative research, respectively. Thick descriptions presented after the data collection provided coherent findings fit the data and social contexts from which the findings were derived.
CHAPTER FOUR
DATA ANALYSIS

Introduction

The purpose of the present study was to investigate learner interaction emerging among advanced adult ESL learners in a threaded discussion forum when assigned to argue about controversial issues and their word appropriation strategies when encountering unknown words during task engagement. The participants were assigned to read two controversial articles about assisted suicide and mandatory uniform policy and then were divided into two groups to argue about the issues deriving from the assigned readings. The research questions focused on the assistance the learners provided one another in a threaded discussion forum through which text-based communication, learners’ postings, were used as thinking devices to complete assigned tasks. Because the tasks requested the participants to argue about controversial issues deriving from the assigned readings, the analysis focused on how multiple voices emerging in arguments would generate new meanings of discussion issues through their participation in the threaded discussion. The answers to the questions were sought through discourse analysis and introspective post-task interviews conducted with individual participants to answer questions emerging during a preliminary transcript analysis.

As shown in the presentation of the results in the present chapter, more than ten threads emerged in the threaded discussion forum during completion of each task. Different participants were able to initiate threads to lead discussions while some were able to incorporate what had been initiated and transformed the discussion into a new direction. The roles among participants were fluid instead of static; that is, they collaboratively assisted one another to accomplish assigned tasks. Multiple voices emerging in threaded discussion forum allowed the participants opportunities for meaning construction regarding the assigned topics and transformed themselves from novices to expert-like participants at the end of participation.

Meanwhile, the task of reading and responding to postings in the threaded discussion board engaged the participants in a situation where they encountered unknown
words and had immediate needs to use them or their concepts to maintain the flow of interaction. As the target language, English was used as a mediational tool in participation in the discussion forum. The participants, therefore, needed to develop word appropriation strategies to deal with unknown words encountered to complete the assigned tasks. The analysis of the data regarding each research question will be displayed in this chapter.

Patterns of Social Interaction

The first question pertains to patterns of social interaction in the threaded forum. The questions that guided the investigation to explore the patterns of social interaction were as follows:

1.0 What patterns of interaction emerge during participation in a threaded discussion?

1.1 Under what circumstances do the roles of expert and novice emerge during task engagement?

1.1.1 Who initiates each thread to start an argument in the threaded discussion?

1.1.2 Who provides argumentative ideas within and across threads to shift ongoing arguments to a new direction?

1.1.3 Who posts messages containing words identified by other participants as unknown but needed for task completion?

1.2 How do the functions of the postings sustain the flow of arguments?

1.3 How do multiple voices emerging during task engagement serve as mediational tools for expansion of arguments as well as meaning co-construction regarding words identified as unknown before participation?

To answer the first research question: What patterns of interaction emerge during participation in a threaded discussion?, the researcher explored three aspects of the interaction patterns. These included: 1) the roles of the learners regarding experts and novices emerging within and across threads during task engagement, 2) the functions of the postings to maintain the flow of arguments, and 3) emerging multiple voices in the threaded discussion forum through which the participants argued about the same topic.
from different perspectives to construct new meanings and to generate more arguments regarding the assigned topics as well as meaning construction for inference of unknown words encountered during task engagement. Two tasks, one for assisted suicide and the other for mandatory uniform policy, will be discussed respectively to see if there is a consistency of the interaction patterns across tasks.

**Task I: Assisted Suicide**

**Roles of Expert and Novice in Task I**

Before getting into the discussion of the findings regarding the roles of E/N in the present study, the definitions regarding E/N should be discussed to provide a background for the analysis. As indicated in Chapter Three, results of the pilot study revealed that the completion of assigned tasks consisted of different threads on the threaded discussion board and that different participants were able to initiate threads with collaboration of other participants to generate arguments within and across threads. In addition, because the participants were instructed to argue about controversial issues, some participants were able to incorporate and transform previous arguments from the opposite group to lead to a new direction of discussion during the process of arguments. Results of the pilot study also showed that different participants knew different words in task engagement. The participants who knew unknown words identified by other participants sometimes used those words directly in their postings, and the participants who did not know those words encountered those words embedded in messages, tried to figure out their meanings, or even better, were able to use them in their replies. For this reason, when analyzing the emergence of the roles of E/N during task engagement, the contexts regarding the roles of experts are defined as the following:

1) The participants who were able to identify the arguments deriving from the assigned readings and use them to initiate threads to lead arguments within a thread to complete tasks;

2) The participants who were able to provide argumentative ideas regarding the discussion topics to generate more discussion across threads during the development of a thread; and
3) The participants who knew unknown words identified by other participants and used them in their postings to scaffold novices’ participation in the threaded discussion.

Likewise, novices would be the participants who did not have the capabilities described above. According to the task requirements, the participants needed to argue about controversial issues by means of reading and posting messages in a threaded discussion forum. The analysis will start from an overview of all threads emerging in each task to track the emergence of the roles of E/N during the process of completion of assigned tasks.

An Overview of Task I: Assisted Suicide

In order to preserve the participants’ anonymity, they were assigned a code created by a combination of their own assigned number and the letter assigned to their own group position. 17 participants participated in Task I, including 2s, 3s, 4s, 5s, 6s, 7s, 8s, 9s, 1o, 2o, 3o, 4o, 5o, 6o, 8o, 9o, and 10o. The researcher collected 219 messages in Task I. As mentioned in Chapter Three, the participants received an orientation to posting messages one day before formal data collection. Within these 219 messages, 21 were posted during the orientation to participate in a threaded discussion forum while 198 messages were posted during the period of about 80 minutes the next day. In Task I, 17 initiated messages were generated into threads while 5 initiated messages attracted no responses from any other participants and stood alone in the threaded discussion forum. These 5 messages were included in discussion although they could not be considered as threads.

The 17 threads and 5 initiated messages without responses were initiated by different participants from either the supporting or the opposing group to argue for or against assisted suicide. The discussion within these threads and initiated messages were related to one another, except for the last thread Oh–Hime-sama, in which a Korean participant played with a Japanese participant several minutes before the end of the task.

Due to the nature of a threaded discussion forum, all threads may emerge at the same time or very close in time. The order of threads displayed in a threaded discussion forum is based on the order of the first message posted in each thread. Although many
threads may be developing on the threaded discussion forum simultaneously, for the convenience of discussion these 17 threads were numbered in the order in which they were displayed on the threaded discussion board.

On a threaded discussion board, a thread is created after other participants reply to an initiated message. The number of messages within a thread varies, depending upon how many participants join in the discussions within the thread. Each thread can also be developed into several sub-threads when different participants reply to the same initiated message at the same time, and a created sub-thread can be expanded into several sub-sub threads when other participants reply to the newly developed sub-threads. An expansion of a thread into sub-threads and sub-sub threads indicates that the participants have a number of arguments regarding the theme of that thread. A thread will automatically end when no participants reply to any messages within that thread.

Table 4.1 shows these 17 threads and 5 initiated messages (in bold and italic) emerging in Task I, including the labels of the threads, number of messages within the threads, initiators, the time the first message was initiated, as well as the time the last message was posted within the thread:

<table>
<thead>
<tr>
<th>Student Labeled Threads and Initiated Messages Without Responses (in bold and italic)</th>
<th>No of messages</th>
<th>Initiator</th>
<th>Initiated/ Ending Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Evid: right to die</td>
<td>13</td>
<td>3s</td>
<td>10/28 11:42 10/29 12:33</td>
</tr>
<tr>
<td>2. We don’t have the right to take someone’s life</td>
<td>10</td>
<td>3o</td>
<td>10/28 11:43 10/29 12:39</td>
</tr>
<tr>
<td>3. Assisted suicide</td>
<td>9</td>
<td>2s</td>
<td>10/28 11:47 10/29 12:46</td>
</tr>
<tr>
<td>4. The court (ruling of assisted suicide)</td>
<td>3</td>
<td>5s</td>
<td>10/28 12:11 10/29 12:04</td>
</tr>
<tr>
<td>2. Deciding a death of someone who is</td>
<td>1</td>
<td>8o</td>
<td>10/28 12:13</td>
</tr>
</tbody>
</table>
Table 4.1 shows that within these 17 threads 9 threads were initiated by 8 different participants from the supporting group and 8 threads by 5 different participants from the opposing group. The results indicate that some participants from different groups were able to identify evidence from the assigned reading and use it to initiate
threads to support their group positions while some participants were able to identify flaws in the argument from the opposing group to start different arguments against initiated threads from the opposing group.

The number of messages within each thread varied from two messages to forty-five messages. The length of a thread indicates where the argument was concentrated. For example, the 5 longest threads in Task I were *there is no revive from coma*, containing 45 messages; *buffalo soldier*, containing 41 messages; *vegetative state*, containing 24 messages; *no idea*, containing 17 messages; and *right to die*, containing 13 messages. These threads brought about the most arguments about assisted suicide among the participants. Except for *buffalo soldier*, which contained many off-topic messages, the remainder of the threads were arguments from both sides about the controversy of definitions regarding revival from a coma, the meaning of being alive, situations of being in a vegetative state, chances to be revived from a coma, and decision-making about the practice of euthanasia. These arguments were the core controversy in the article about euthanasia.

Once threads were initiated, the remainder of the participants jumped into these arguments to argue about the controversy existing among these situations. These threads were therefore expanded longer and longer, either to the end of the threaded discussion or when the participants were attracted to participate in other threads. Because the threads were simultaneously developing (note the initiated time and ending time of each thread in Table 4.1), different participants were able to reply to any messages within the same thread or different threads at the same time because of the nature of a threaded discussion forum. The messages they posted appeared in a nonlinear order in the threaded discussion forum. However, because the computer recorded the time that the messages were posted, the researcher was able to track who initiated and led the discussion within and across threads.

**Initiators of Threads**

According to task instructions, the participants needed to use evidence from the assigned readings or elaborate their arguments from personal experiences, previous knowledge about the assigned topic or cases they had known before to support their
group position. As shown in Table 4.1, different participants were able to initiate
different threads. The following will discuss how the initiators opened the argument in
each thread.

3s initiated Thread 1 *Evid: right to die* by using evidence from the assigned
reading to invite the argument about whether or not a patient in a coma had a right to die.
The initiation was developed into an argument about a patient’s right to die as well
his/her right to live.

3o challenged 3s’s argument to and opened Thread 2, *We don’t have the right to
take someone’s life*. She argued that we did not have the right to not take someone’s life
without his/her permission. 8s replied to argue that when a patient was in a vegetative
state, s/he seemed just a vegetable, and that if we could take vegetables’ and animals’
lives, we should be able to take someone’s life when s/he was in a vegetative state. The
argument was thus turned into a debate over the legality of the practice of euthanasia
when 6o replied against 8s’ position by saying that killing animals did not break the law
but killing people did break the law.

2s initiated Thread 3, *assisted suicide*, arguing her personal opinion about the high
cost of the treatment for a patient in a coma. The participants from the opposing group
suggested that the government should provide help. The thread started with the cost of
treatment, to the right of family members’ right to survive, and ending up whether or not
the government could provide help.

While Thread 3 *assisted suicide* was initiated, 4o posted a message labeled
*trauma to family* at the same time to argue from his personal opinion that although
euthanasia could be legalized, it was a big trauma to the family. His posting, however,
received no responses from any participants, but was continued by 6o later in Thread 3 to
argue that a patient in a coma still had relationships with his/her family members and
friends. Therefore, it was not an easy decision to make to practice euthanasia when
someone was in a coma. Here, 4o’s argument was expanded by 6o, not within the same
thread but across several threads.

5s revoiced an argument in the assigned reading to initiate Thread 4, *the court*, to
argue that the decision to disconnect a machine should be made by an agreement of the
family and the patient instead of the court or the Supreme Court. The opposing group
argued that sometimes it was too difficult for the family to decide, and it needed another opinion. 7s argued that the practice of euthanasia should not be considered as a direct killing because it might save more people’s lives when the patient donated organs to people in need. This thread continued on an argument about the decision to practice euthanasia and the legality of its decision.

8o initiated Thread 5, chance to revive, to argue about chances to be revived as medical technology advanced. The supporting group countered that the case of revival from a coma was rare and doubted that the patient being revived from a coma might have problems living a normal life. The argument about chance to revive was continued in Thread 14, there is no revive from coma.

4o initiated Thread 6 and labeled it right to die a label that had already been used by the supporting group to label Thread 1, Evid: right to die. In this thread, 4o challenged the supporting group that even though people had a right to die, no one could make a decision without the patient’s agreement. The argument became a debate between natural death and the decision regarding the time of someone’s death.

4s initiated Thread 7, no idea, to argue for his personal opinion that if people did not have consciousness, it was almost the same as death. The argument in the thread turned into an argument about the controversy regarding the definition of being dead. In this thread 4s’s argument that a person without consciousness was almost the same as being dead was challenged by the opposing group: If the body was still warm, could that be considered as death?

6s used evidence about a case of a firefighter from the assigned reading to argue that a living will should be considered to support the practice of euthanasia. In the case, a firefighter left a living will before he went into a coma that if he were in a vegetative state some day, he would like to have assisted suicide. 6s’s message received no responses from any participants.

At the same time when 6s posted his message without responses, 3o used a case from the assigned reading to initiate Thread 8, old lady, to provide evidence that a patient could awake from a coma. She argued that a patient in a coma was in a vulnerable situation and could not make a decision. 3o’s argument was challenged that the case was just a miracle. Her initiation was supported by her group members that although the old
lady’s case was a particular one, there were still the possibilities to kill someone when practicing euthanasia.

9o initiated Thread 9, *opposing*, to argue that if the patient were a family member, people might have different opinions and wanted to wait for revival from a coma because science advances and new technology could solve the problem. There was always a possibility in the future. This thread only attracted one message to ask for clarification about what science 9o indicated in her message.

8s initiated Thread 10, *financial burden*, to challenge the feasibility of waiting for revival from a coma because of a financial burden on the cure from a coma. 8s argued that “Our will cannot cure them. We need not only financial support but also patient’s living will.” The opposing group joined the discussion but could not argue for a better solution to financial problem caused to a patient in a coma.

10o initiated Thread 11, *people’s life important*, to argue for her personal opinion that all people had the right to live and that no doctors should give a patient his/her prognosis. The supporting group argued again that the patient’s family members should also have their right to live because the patient’s right to live became family members’ pain.

9s initiated Thread 12, *vegetative state*, to argue from her personal opinion that she would rather die to avoid heavy pressure on her family members and friends if she were in a vegetative state. This thread generated 24 messages about situations of being in a vegetative state, which later was transformed into an argument about the meaning of being alive. 9s took a leading role in the argument and posted 5 messages within this thread.

6s initiated Thread 13, *buffalo soldier*, in which he named his group, *buffalo soldier*, which was the name of a song by Bob Marley that the participants sang in a previous class before participating in the threaded discussion. Part of the lyric of the song was “…How the Dreadlock Rasta was the Buffalo Soldier, and he was taken from Africa, brought to America, fighting on arrival, fighting for survival”. Here, 6s used *buffalo soldier* as a metaphor to name his team as well as to symbolize that a patient in a coma was like buffalo soldier in the song, trying to survive. After naming his team *buffalo soldier*, 6s confirmed 4s’s identity to ensure that they were from the same group
and asked him to join the discussion. In order to focus the discussion on the assigned topic, 4s began to use buffalo as a metaphor to symbolize financial support that a patient needed from the government. This thread started with 6s’s playfulness with his group members and gradually developed into a social thread, containing many messages for playfulness among the participants, such as guessing each other’s identities, talking about the upcoming event (pumpkin carving contest) in the afternoon, quizzes in the coming week, and some other small talk among the participants. While other participants joked around classroom events, 6s again posted several off-topic messages about a pumpkin carving contest, a coming event in the afternoon. 4s immediately transformed it into a metaphor of government support and argued that the support from the government was limited to sustain patients in a coma.

7s initiated Thread 14, *There is no revive from coma*, to challenge 8o’s position in Thread 5, *chance to revive*. She began the thread to argue that there was no revival from a coma, and that even though a patient could wake up from a coma, s/he could not live a normal life because his/her brain cells would have been damaged. The thread was developed into the longest thread on the discussion board. Within this thread, 7s played a very active role leading the argument; she alone posted 12 out of 45 messages within this thread.

3o initiated Thread 15, *everybody come here!* while most of the participants were participating in Thread 14. She asserted that no one could have the right to decide whether or not a person could live or die. The whole thread turned into an argument from both sides about the decision of death by the nature or people, and then the functions of hospitals to prolong life or death.

7s initiated Thread 16, *Personal!!!!!!!!Opinion*, several minutes before the end of the threaded discussion. She argued that if she were in a coma, she would donate her organs to people in need because life became more valuable to save other people’s lives by means of organ donation than to stay in a coma in the hospital. 9s joined to support 7s’ statement saying that she would do the same. The thread ended after 9s’ posting because the time for participation had come to an end.

During a few minutes left before the end of the participation, 8o initiated Thread 17, *Oh~Hime-sama*, to play with his group member, 6o. They posted messages, such as
“^ ^”, “he jo”, “kekekeke i know who you are~”, “he sso?”, “crazy…MxxA” and “Crazy…xASx”, to greet each other and guessed each other’s identities. The whole thread contained no discussion about the topic at all. The participants seemed to have fun posting the messages, playing with each other.

In summary, during threads emerging in Task I, different participants were able to identify evidence from the assigned reading and used this evidence to label threads to initiate arguments. These participants set the themes of the discussion within each thread. They therefore played a role as an expert to initiate arguments within a thread for the rest of the participants to follow and continue the arguments.

In addition to initiating threads, thread initiators usually posted the most messages within the threads they initiated. For example, 4s posted 9 messages out of 17 in Thread 7, No idea; 7s posted 12 messages out of 45 in Thread 14, There is no revive from coma; and 9s posted 5 messages out of 24 in Thread 12, vegetative state. These thread initiators not only set the theme for arguments within the threads but also constantly responded to challenges from the opposing group. They thus played an active role in leading arguments and therefore served as experts during the completion of the assigned task.

Providers of Argumentative Ideas

During the development of each thread, some participants were able to incorporate an initiated theme and transform it into a new direction of arguments to generate more discussion. The incorporation and transformation of the initiated discussion occurred not only within a thread but also across threads to generate more arguments during task engagement. The following three examples are about incorporation and transformation.

First, 5o transformed the theme of a patient’s right to die initiated by 3s in Thread 1 to the patient’s right to live when replying to 3s, saying, “I don’t agree this statement because everyone has a right to live!!” 5os shifted the argument from a patient’s right to die to a patient’s right to live, which later was consistently argued across threads by his group members to be against the opposing group. In this example, although 5o did not initiate any threads in Task I, he was able to transform an initiated theme into a new direction of discussion, which later was picked up and used by 4s to argue for his group
position that euthanasia should be practiced because a patient’s family members should also have their rights to live.

Second, 7s was a respondent in Thread 5, *chance to revive*, but she incorporated and transformed *chances to revive to no revival from a coma* within this thread and later initiated Thread 14, *There is no revive from coma*, to continue her argument. She posted:

> It is really rare and special cases. in our text, some woman revived from her coma But she just went back! nobody could really revive from coma. Even if they can wake up, it does not mean he/she can go back their normal life. They still have mental or physical problem which can not live normally. so there is no chance to revive from coma! (5.7)

While most of postings in Thread 5 were from the opposing group to argue about chances to revive from a coma, 7s initiated Thread 14, *There is no revive from coma*, to continue arguing more about her own position. Thread 14 was developed into the longest thread, containing 45 messages in Task I. In this case, 7s transformed her role as a novice (a respondent) in Thread 5 into an expert (an initiator of argumentative idea) as well as an initiator of Thread 14.

Third, Thread 3, *assisted suicide*, was initiated by 2s to argue about money spent on treatment for a patient in coma, in which 9o brought about a new thought in the middle of an argument within the thread: If the financial burden was a big pressure on a patient’s family, the government should provide help. Her argument about government support was expanded by her group members in different threads and was also borrowed and adopted by 6s and 4s in Thread 13 *buffalo soldier* to generate discussion about how the government could catch buffalos or gain enough pumpkins\(^1\) to sustain a family with a patient in a coma.

These three examples suggest that a passive respondent could change his/her role from a novice into an expert and lead new direction of argument during completion of tasks. Combining the contexts of being an initiator of a thread as well as an initiator of argumentative ideas during the development of threads, Table 4.2 shows individual

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\(^1\) Here buffalos and pumpkins were used by 4s and 6s as metaphors of financial support from the government.
participants’ contribution to leading an argument, either as initiators of threads or providers of argumentative ideas in the middle of threads:

<table>
<thead>
<tr>
<th>Participant</th>
<th>Initiated ideas for discussion</th>
</tr>
</thead>
</table>
| 2s          | • Initiated Thread 3, *Assisted suicide*  
            | • Initiated the idea about a high cost of treatment for a patient in a coma, which led to discussion about financial burden on a patient in a coma. |
| 3s          | • Initiated Thread 1, *Right to die*, about a patient’s right to die. |
| 4s          | • Initiated Thread 7, *No idea*, about the situations in a coma.  
            | • Transformed a patient’s right to live to family members’ right to live.  
            | • Posted 9 messages with that thread. |
| 5s          | • Initiated Thread 4, *The court*, about the ruling from the court, which led to a discussion about decision-making of the practice of euthanasia. |
| 6s          | • Initiated a message: a firefighter’s case about the patient’s living will before going into a coma.  
            | • Initiated Thread 13, *Buffalo soldier*, about the government support for the family with a patient in a coma. |
| 7s          | • Initiated Thread 14, *There is no revive from coma*, which led to 45-message arguments about a revival from a coma, including brain cell damage, duplication of brain cells, their transplantation into the patient in a coma, and the problem with the transplantation.  
            | • Posted 12 messages within the thread.  
            | • Initiated Thread 16, *Personal opinion!!* about organ donation of a Patient in a coma. |
| 8s          | • Initiated Thread 10, *Financial burden*, about the financial burden that a patient in a coma would suffer. |
| 9s          | • Initiated Thread 12, *Vegetative state*, which led to a 27-message discussion about situations of being in a vegetative state and argument about the meaning of being alive.  
            | • Posted 5 messages within this thread |
| 1o          | • Initiated ideas about a living will. Posted messages according to her personal opinion about the topic instead of her assigned group position. |
| 2o          | • Did not post any messages because of a lack of experience in online discussion but began to post messages in Task II. |
| 3o          | • Initiated Thread 2, *We don’t have right to take someone’s life*, which led to a discussion about the legality of the practice of euthanasia within the thread.  
            | • Initiated Thread 15, *Everybody comes here!* |
Table 4.2 –continued

<table>
<thead>
<tr>
<th>Participant</th>
<th>Initiated ideas for discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>4o</td>
<td>• Initiated a message labeled <em>Trauma to family</em> but received no responses. The idea was expanded by 6o that a patient in a coma had relationships with family and friends.</td>
</tr>
<tr>
<td>5o</td>
<td>• Transformed the patient’s right to die to a right to live, which led to a discussion about living right (arguments between a patient’s right to live or his/her family members’ rights to live).</td>
</tr>
</tbody>
</table>
| 6o          | • Initiated the idea that killing animals did not break the law, which led to a discussion about legality of the practice of euthanasia in Thread 2.  
• Initiated an idea that a patient in a coma could not make a decision, which led to a discussion about the decision-making of the practice of euthanasia. |
| 8o          | • Initiated Thread 5, *Chance to revive*, which led to the initiation of Thread 14 by 7s.  
• Initiated the idea that development of technology could solve problems of being in a coma, which was constantly used by the participants from both sides. |
| 9o          | • Initiated Thread 9, *Opposing*, to argue against the practice of euthanasia.  
• Initiated the idea that government should provide financial help to the patient in Thread 2, which was expanded by 4s and 6s in Thread 13, buffalo soldier and 5o in Thread 12. |
| 10o         | • Initiated Thread 11, *People’s life important*. |

Table 4.2 shows that almost every participant played a role in contributing to the development of arguments in Task I except 2o. They either initiated a thread setting a theme to launch arguments within a thread or lifted the discussion into another direction by identifying a flaw in a prior message. Therefore, the roles of E/N regarding the leading of argument in a threaded discussion forum should be considered a form of “collective scaffolding” (Donato, 1994) among the participants instead of a strict distinction between experts and novices because each participant played a role in collaborating with other participants for task completion. Their roles of being an expert or a novice regarding generating arguments were thus fluid rather than static.

**Word-Knowledgeable Participants**

The third aspect regarding the roles of E/N falls in an investigation of word knowledge needed for arguments. In the present study, the participants were adult ESL
learners, and the target language, was used as a mediational tool for arguments. During task engagement, they encountered unknown words and needed to use them to continue arguments. The roles of E/N thus emerged, depending upon participants’ different degrees of command of vocabulary knowledge needed for argument regarding the assigned topic.

Results of comparing the pre- and the post-task VKS showed that different participants had different degrees of vocabulary knowledge regarding the words in the assigned reading, which suggests an existence of E/N regarding word knowledge in Task I. Analysis of a pre- and post-task VKS suggests that participation in threaded discussion resulted in their better understanding of certain words, especially the four words including coma, euthanasia, vegetative, and revive.

Table 4.3 shows individual participants’ vocabulary knowledge regarding these four words before and after the task. The symbol × represents that the participant did not know the word before or after participation, and the symbol √ represents that the participant knew the word before participation or learned it during task engagement. The symbol x√ thus indicates that the participant developed a better understanding of these words as a result of task engagement.

Table 4.3
Individual Participants’ Word Knowledge Regarding the Four Words

<table>
<thead>
<tr>
<th>Part. Word</th>
<th>2s</th>
<th>3s</th>
<th>4s</th>
<th>6s</th>
<th>7s</th>
<th>8s</th>
<th>9s</th>
<th>1o</th>
<th>2o</th>
<th>3o</th>
<th>4o</th>
<th>5o</th>
<th>6o</th>
<th>8o</th>
<th>9o</th>
<th>10o</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coma</td>
<td>√√</td>
<td>××</td>
<td>×√</td>
<td>√√</td>
<td>√√</td>
<td>x√</td>
<td>x√</td>
<td>√√</td>
<td>√√</td>
<td>√√</td>
<td>√√</td>
<td>√√</td>
<td>√√</td>
<td>×√</td>
<td>√√</td>
<td>×√</td>
</tr>
<tr>
<td>Euthanasia</td>
<td>x√</td>
<td>××</td>
<td>×√</td>
<td>×√</td>
<td>x√</td>
<td>x√</td>
<td>x√</td>
<td>√√</td>
<td>√√</td>
<td>√√</td>
<td>√√</td>
<td>x√</td>
<td>x√</td>
<td>x√</td>
<td>√√</td>
<td></td>
</tr>
<tr>
<td>Revive</td>
<td>√√</td>
<td>××</td>
<td>×√</td>
<td>×√</td>
<td>x√</td>
<td>x√</td>
<td>x√</td>
<td>√√</td>
<td>√√</td>
<td>√√</td>
<td>√√</td>
<td>x√</td>
<td>x√</td>
<td>x√</td>
<td>√√</td>
<td></td>
</tr>
<tr>
<td>Vegetative</td>
<td>√√</td>
<td>××</td>
<td>x√</td>
<td>x√</td>
<td>x√</td>
<td>x√</td>
<td>x√</td>
<td>√√</td>
<td>√√</td>
<td>√√</td>
<td>√√</td>
<td>x√</td>
<td>x√</td>
<td>x√</td>
<td>√√</td>
<td></td>
</tr>
</tbody>
</table>

Results of a comparison of pre- and post-task VKS suggest the existence of E/N regarding word knowledge needed for task completion because of the participants’ different degrees of commanding these words. 8s, 3o, and 9o, for example, were the participants who claimed they knew these four words before participation. They played
the roles as more knowledgeable participants because their postings provided assistance
for other participants to encounter these unknown words in meaningful contexts so that
they could benefit from contextual assistance to infer the words’ meanings. 3s, for
example, was the only participant who did not know any of these words before
participation and thus played a role as a novice. The remainder of the participants,
however, developed their better understanding of these words when encountering them
embedded in postings during task engagement. These participants, including 2s, 4s, 6s,
7s, 9s, 1o, 2o, 3o, 5o, 6o, 8o, and 10o, played a dual role as an expert as well a novice,
depending upon words chosen for investigation.

For example, 9s was an expert when ‘vegetative’ was chosen to investigate the
roles of E/N because she initiated Thread 9, *vegetative state*, and embedded this word in
her postings several times when arguing about the situations of being in a vegetative
state. By contrast, she became a novice and had to develop a better understanding of the
word *euthanasia* from other people’s postings when ‘euthanasia’ was chosen for
investigation. 2s, for example, was an expert when ‘coma’ was chosen to investigate the
role because she knew the word ‘coma’ and used it in her posting to provide novices
assistance to infer the word’s meaning from her posting. However, when ‘euthanasia’
was chosen for investigation, 2s was a novice because she inferred the meaning of this
word by reading postings from other participants. In the meantime, some participants’
roles of being an expert or a novice could be changed during the process of task
engagement because they were able to infer the word meaning and used the word
appropriately in their postings to reply to prior messages, which provided other
participants assistance to infer words’ meaning in their postings to maintain the flow of
interaction. 4o, for example, serving as a novice regarding the word ‘coma’, was able to
use this word in his postings during the process of participating in the threaded
discussions. A similar case occurred with 5o. He was able to use ‘revive’ in his postings
on three different occasions during task engagement. Both 4o and 5o started as novices
and ended up as experts regarding the word ‘coma’ and ‘revive’ because they
individually were later able to use these words appropriately in their postings in their
participation.
Following the comparison of pre- and post-task VKS, the analysis of posted messages also suggests that the participants’ better understanding of unknown words in the task was related to the frequency of the embedding of these four words in postings, and that different participants used them in their postings. Table 4.4 records the locations\(^2\) where these words were embedded and their frequencies of embedding in arguments:

Table 4.4
Uses of Unknown Words in Task Engagement

<table>
<thead>
<tr>
<th>Unknown word</th>
<th>Posted Messages by</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coma</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 2s in 12.6, 14.19, 14.28, and a message without responses labeled <em>themselves</em>.</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>• 6s in 14.26 and a message without responses labeled <em>Evid: firefighter case</em>.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 7s in 5.7, 14.1, 14. 15, 14.25, and 16.1.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 8s in 2.6.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 3o in 1.9 and 7.11.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 4o in 14.27.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 9o in 3.7 and 9.1.</td>
<td></td>
</tr>
<tr>
<td><strong>Euthanasia</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 1o in 8.6.</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>• 4o in 6.1, 7.2 and 7.7.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 9o in 9.1.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 10o in a message without response labeled <em>people may forget.</em></td>
<td></td>
</tr>
<tr>
<td><strong>Revive</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 7s in 5.7, 12.4, and 14.1.</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>• 5o in 12.6, 12.14, and 14.23. (5o learned this word during task engagement and used it to respond to prior messages).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 8o in 14.11 and a message without responses labeled <em>deciding a death of someone who is...</em></td>
<td></td>
</tr>
</tbody>
</table>

\(^2\) In Table 4.4, 12.6 represents that *coma* was embedded in message 6, Thread 12. Likewise, 14.19 represents that *coma* was embedded in message 19, Thread 14.
Table 4.4 shows that different participants together were able to provide assistance for other participants to infer word meanings through their postings. For example, the word *vegetative* was used three times by 9s, two times each by 5o and 9o, and one time each by 4o and 6o. The participants, who did not know this word thus, at least potentially, encountered it 9 times within contexts in different threads during task engagement. The embedding of the unknown words in postings provided contextual assistance for the participants to infer the words’ meanings and even better to pick them up and use them to reply to prior messages.

In addition to the four words discussed above, the contextual assistance from postings was also confirmed in the interview data. During the post-task interview, the participants said that reading the postings helped them get the meanings of unknown words encountered in the assigned reading. Here are three examples. First, 6s said that he understood the meaning of ‘respirator’ during task participation. When the researcher showed him the transcript data, he underlined the phrase, “by depending on the machine you continue your state”, in 12. 6 posted by 2s. The word ‘respirator’ appeared in the assigned reading but not in any postings, but the reading of the phrase underlined in 12.6, he said, provided him contextual assistance to infer its meaning. Some participants learned new words that were not in the assigned reading, but were used by participants during task engagement. Second, 4o encountered the word ‘transplant’ in 7s’s posting and immediately used this word in his reply when arguing about the feasibility of transplanting of brain cells into a patient in a coma in Thread 14 *there is no revive from*
Third, 3s said that she learned the word ‘suicide’ when 7s posted “So live in bed for eternity? Do you think it is really alive? I would rather suicide if I could!” in message 14.12 and also in arguments about the existence of a right to die. These three examples also illustrate that the reading of postings provided contextual assistance for the participants to infer word meanings of unknown words during task engagement.

To summarize, the participation in a threaded discussion forum engaged the participants in situations where they needed to use the second language to engage in arguing with other participants. The roles of E/N emerged when the participants encountered unknown words and needed to comprehend or even use them to maintain the flow of arguments. They thus developed a better understanding of unknown words (Table 4.3) through passively reading postings in arguments (Table 4.4) or actively arguing the conflicts existing between group positions. The discussion in this section suggests that although there exists the roles of E/N among the participants regarding word knowledge needed for task completion, most participants played a dual role, depending upon words chosen for investigation. Therefore, the roles of expert and novice regarding word knowledge should be seen as more fluid rather than static.

**Functions of the Postings**

Threaded discussion is text-based communication. The participants communicate with one another by means of posting messages. In Task I, the participants argued about assisted suicide in a threaded discussion forum. According to the task instructions, they could use evidence either from the assigned reading or from their personal opinion or experience to argue for or against the issue. The table below is brought forth once again from Chapter 3 to help the reader. Table 4.5 illustrates the schemes and codes of the function of the postings that the participants composed to maintain the flow of interaction and also to engender more extended discussion:
Table 4.5
Codes of Functions of the Postings

<table>
<thead>
<tr>
<th>Functions of the Postings</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Different purposes for using questions in messages</td>
<td></td>
</tr>
<tr>
<td>1.1 Challenging previous messages with questions without expecting answers (to show disagreement)</td>
<td>QNA</td>
</tr>
<tr>
<td>1.2 Challenging previous messages with questions expecting answers</td>
<td>QEA</td>
</tr>
<tr>
<td>1.3 Asking for clarifying previous postings.</td>
<td>QCL</td>
</tr>
<tr>
<td>1.4 Convincing someone to agree with his or her opinions.</td>
<td>QCV</td>
</tr>
<tr>
<td>2. Uptake to expand arguments.</td>
<td></td>
</tr>
<tr>
<td>2.1 Up-take from previous messages to continue discussions</td>
<td>UTC</td>
</tr>
<tr>
<td>2.2 Up-take from previous messages and then incorporate and transform to expand arguments.</td>
<td>UTIT</td>
</tr>
<tr>
<td>3. Examples to support group positions</td>
<td></td>
</tr>
<tr>
<td>3.1 Arguing with examples from assigned readings</td>
<td>AR</td>
</tr>
<tr>
<td>3.2 Arguing with examples from personal opinions (or personal experiences)</td>
<td>PE</td>
</tr>
<tr>
<td>4. Off-topic messages within a thread</td>
<td>OT</td>
</tr>
<tr>
<td>5. Verification of assigned tasks</td>
<td>VT</td>
</tr>
<tr>
<td>6. Arguing definitions of controversial issues in the article, such as definition of living comparing with “vegetative state’ or ‘revive’.</td>
<td>ADF</td>
</tr>
<tr>
<td>7. Replying to further explain what had been said previously.</td>
<td>RFE</td>
</tr>
</tbody>
</table>

The coding of functions of the postings suggests that the participants developed a variety of strategies to sustain their arguments to complete the assigned task. These strategies included various purposes of using questions in their postings; using evidence from the assigned reading and personal opinion or experience to support their arguments; using uptake from prior messages to extend their arguments; verifying the assigned task with other participants; arguing about the controversial definitions of certain issues deriving from the assigned topic; replying for further explanations; and off-topic discussion. In the following sections, the researcher will use examples to instantiate the functions of the postings composed to maintain the flow of interaction and extend the argument in task.

The results of the coding for Task I were verified by Observer A and were computed at 100%. Table 4.6 shows the distribution of the functions of the postings emerging in the threaded forum to maintain the flow of argument as well as task completion:
Table 4.6
The Functions of Postings for Argument in Task I

| Coding | Thread | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | Others | Total | Percentage |
|--------|--------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|-----|------|------------|
| QNA    |        | 1 | 2 | 2 | 2 | 3 | 1 | 11 |   |    |     |     |     |     |     |     |     |     | 11    | 5.02%      |
| QEA    |        | 1 | 2 | 2 | 4 | 9 | 4 | 9  |   |    |     |     |     |     |     |     |     |     | 9     | 4.11%      |
| QCL    |        | 1 | 1 | 1 | 1 | 1 | 1 | 4  |   |    |     |     |     |     |     |     |     |     | 4     | 1.83%      |
| QCV    |        | 1 | 2 |   |   |   |   | 3  |   |    |     |     |     |     |     |     |     |     | 3     | 1.37%      |
| AR     |        | 1 | 1 | 1 | 1 | 1 | 3 | 2  |   |    |     |     |     |     |     |     |     |     | 9     | 4.11%      |
| PE     |        | 4 | 4 | 1 | 2 | 2 | 3 | 2  | 1 | 1 | 2  | 8  | 1  | 5  | 1  | 1  | 1  | 3    | 42    | 19.18%     |
| UTC    |        | 4 | 3 | 4 | 1 | 2 | 1 | 5  | 4 | 2  | 2  | 5  | 4  | 18 | 4  | 1  |   | 60    | 27.40%     |
| UTIT   |        | 1 | 1 | 2 |   |   |   | 4  |   |    |     |     |     |     |     |     |     |     | 8     | 3.65%      |
| OT     |        | 1 | 4 | 1 | 30|   |   | 8  | 1 |    |     |     |     |     |     |     |     |     | 45    | 20.55%     |
| VT     |        |   |   |   |   |   |   | 6  | 3 |    |     |     |     |     |     |     |     |     | 9     | 4.11%      |
| ADF    |        | 1 | 1 | 1 |   |   |   | 4  | 4 |    |     |     |     |     |     |     |     |     | 11    | 5.02%      |
| RFE    |        | 1 | 4 | 1 |   |   |   | 1  | 1 |    |     |     |     |     |     |     |     |     | 8     | 3.65%      |
Various Purposes for Using Questions in Postings.

The total use of questions in messages comprises 12.33% in the total postings. The participants used questions for various purposes, including identifying flaws in prior messages to challenge the opposite group rather than expecting answers (QNA); asking the opposite group to provide answers to their problematic arguments in messages (QEA); asking clarifications about unclear arguments in prior messages (QCL); and using tag questions to convince the other group to agree with what they said (QCV). The various purposes of using questions sustained and also extended the arguments.

First, QNA constitutes 41% of the total of use of questions within the 27 messages containing questions. In many circumstances, the participants used questions to identify the flaws in a prior message to indicate their disagreements. These rhetorical questions were embedded in messages for challenging rather than expecting answers. The participants used questions to point out their disagreement on the part of prior messages before they claimed their positions. There were two types of QNA emerging during the coding. One was using a series of questions to emphasize the disagreement:

Example 1:

4s: I think if we don’t have conscious, it is almost the same meaning as die
(7.1).

10o: you think so? but their body is still warm. They die?3 (7.16)

In Example 1, 10o used questions twice to challenge 4s’s argument that a person without consciousness was the same as death. When the researcher interviewed her about the purpose of her using questions in message 7.16, she said that she used the question to challenge 4s’s message to indicate her disagreement. She said, “I was thinking to tell him “I don’t think so” when I wrote the questions”. The other type of using QNA was to use the question at the beginning of a message and then went directly on to argue for their group position:

---

3 In examples used to illustrate the functions of postings, the researcher kept all ungrammatical errors and mistyping in the postings but bolded certain parts of messages to focus the reader on a specific aspect of the data.
Example 2:

5o: don’t forget the scientist can copy the animal. so i believe in the future scientist can **have skill to cure damage brain cells** (14.30).

7s: **do you think you can make same brain cell which have old memory?** it is not science fiction~ We should think about what we can do right now! (14.31)

In Example 2, 7s used a question to challenge what 5o said about the duplication of brain cells when he argued that there was a chance to revive from a coma because of the development of technology. 7s challenged 5o’s argument with a question to point out the problem in his statement that the duplication of human brain cells was different from that of animals’ because of the problem of memories.

During the process of coding the use of questions in messages, the researcher found that the participants repeatedly used these two types of QNA to challenge prior messages. Although these types of rhetorical questions were used for challenging rather than expecting answers from other participants, the participants who were challenged sometimes replied to argue against these challenges. These two participants then argued with each other in a few messages. Example 3 shows the continuing arguments:

Example 3:

4s: It cost a lot. Everybody in family will go backrupcity. (7.3)

4o: But if cost become cheep, what do you think? Can you stop vegetative state people’s life? (7.4)

4s: Umm that’s a good idea, **but how can you make cost cheap?** (7.5)

4o: How can I make? Umm. It’s difficult for me. Maybe I can approach to reduce the cost by the way I can, but now I don’t know that way. So, I ask you the cost become cheep, can you use euthanasia. (7.6)

4s: Maybe yes. But if there is no chance to recover, I don’t pay. (7.7)

In this example, during the post-task interview, 4s said that he used the question to indicate that what 4o said in the previous message was impossible. What he really wanted to say was “I don’t think you can make it”. Although 4s did not expect an answer from 4o, 4o replied to argue more about the issue.
Second, some questions were used to identify flaws in prior messages. The participants who asked questions expected to get answers from prior participants (QEA). They expected prior participants to take their challenges and argue more about the flaw they identified in their postings. In example 4, 7s argued that the money spent on keeping a patient in a coma in the hospital should be spent on saving more lives. 5o argued that if saving life was important, why gave up the patient’s life?

Example 4:

7s: But you should pay money to keep somebody’s life…which it might save another life!!! (14.36)

5o: you also provide the main point that you want to save other life. Why do you give up this person? (14.37)

In the follow-up interview, 5o said that he expected 7s to provide an answer to what she just asked. However, because of the asynchronous nature of the threaded discussion, 7s was posting a message in Thread 5 Chance to revive and did not respond to 5o’s question.

Third, some questions were used for clarifications when the participants found that the statements in prior messages were not clear (QCL). Some QCL received responses, but some did not due to the asynchronous mode of interaction in a threaded discussion forum. Below are two examples of QCL receiving no responses. The interaction thus ended automatically.

Example 5:

8s: Financial problem is very important when we want to cure someone. Our will cannot cure them. We need not only financial support but also patient’s living will. However, if it doesn’t enough, you may choose the death of patient. (10.1)

6o: so, you mean that you don’t have the right to die because your cure depends on your fortune, right? (10.4)

In Example 5, 6o wanted 8s to clarify what she meant by choosing the death of patient. In this example, 8s did not reply to clarify the question asked by 6o. This thread thus ended after 6o’s posting. The researcher searched 8s’s participation on the threaded
discussion board and found that she was posting messages in Thread 2 we don’t have the right to take some…and did not answer the questions asked by 8s.

Example 6

9o: I refuse the euthanasia because anybody can decide if it’s better to live or to die. You can write your opinion but when somethings happen you the science solve your problem. Moreover there are problems to understand everything about the human brain (mind. do you understand me?). So it can happen that a person gets up from a coma. (9.1)

10o: what science? (9.2)

In Example 6, although 10o asked 9o to clarify what science she meant in her message, 9o did not answer her question. Again due to the nature of asynchronous interaction, 9o was posting messages in Thread 8, old lady, and did not answer 10o’s request for clarification. The reason that the participants received no clarifications from the prior participants was due to the nature of asynchronous interaction in a threaded discussion forum. In a threaded discussion forum, participants may participate in any threads they choose because many threads are developing at the same time. Once the participants finish posting in a thread, they may leave to post messages in another thread, so they do not know that other participants ask questions for clarification about their postings. However, some QCL did receive answers if the participants who they asked questions to were still posting messages within the same thread. These messages were coded as RFE (responses for further explanations) and will be discussed later.

Fourth, some questions were asked for the purpose of convincing (QCV). Although the design of the task was to ask the participants to argue against one another about the assigned topic, some participants tried to ask the other group to agree with what they said. These types of questions were usually put at the end of messages as tag questions. Please see examples 7 and 8:

Example 7:

3o: Nobody has the power to take another’s life. If we think about the example of the old lady (88 years old), she began to talk and eat after the doctors removed the feeding tube. The old lady is a vulnerable person and it means she cant decide about living or die. (8.1)
6s: will in the old woman case it’s a special case and we can’t measure one case for other cases and they said that it was a miracle and miracles don’t happen every day…don’t they (8.2)

In Example 7, 6s put “don’t they?” at the end of his posting to ask the participants in other group to agree with him. 9s had the same use of tag questions in her argument. Example 8 illustrates the same function regarding use of questions.

Example 8:

9s: I have two friends who was paralyzed from the neck down in a motorcycle accident, they stayed in a hospital almost 6 years, even they don’t need to worry about the financial problem. In their mind they feel hopeless, they don’t want to live. If you have such as friends like them, what will you do? Can you imagine how their feel about stay in the bed at the hospital for six years? I think it is the most painful thing to them, right? (12.11)

5o: But how do you know what they are thinking? They can’t talk or express themselves! I’m sure they must have hope to talk again! (12.12)

During the interview, 9s said that the purpose for her to use the tag question ‘right’ was to convince other participants to agree with her argument. 5o, however, replied with a question to identify the flaw in 9s’s statement. He replied to argue that 9s was not the person in a paralyzing situation, how she could know what the persons felt. In most cases, questions used for convincing did receive replies starting with phrases such as “I agree with you, but…” or “You are right…but if…” Asking for agreements, however, attracted the opposing group to argue about their disagreements rather than agreements.

To summarize, QNA and QEA were both used for the purpose of challenging. These two types of questions together comprised 74% of the total uses of questions. Moreover, they generated more arguments when the participants, who were challenged, replied to argue for what they were challenged. In addition to QNA and QEA, QCL and QCV together constitute 26% of the total number of questions. For QCL, the participants asked questions in their postings for clarification if they did not understand the arguments in prior messages. However, due to the nature of the asynchronous mode in a threaded discussion, they sometimes received no responses because the participants whom they asked for clarifications were posting messages in another thread. QCV was used for
convincing, and most of the time they appeared at the end of the postings with tag questions, such as ‘don’t they’ and ‘…, right?’ The discussion of various purposes of using questions in the present study reveals that the use of questions played an important role to sustain arguments between messages, especially when used for the function of challenges.

Using Evidence to Support Group Positions

According to the task, the participants were requested to support their arguments with evidence found in the assigned reading or use their personal opinion or experience and previous knowledge regarding the assigned topic to elaborate their arguments. Example 9 was a message that the participant used as evidence from the assigned reading to support their group position while example 10 was elaborated with personal opinion:

**Example 9:**

Nobody has the power to take another’s life. If we think about the example of the old lady (88 years old), she began to talk and eat after the doctors removed the feeding tube. The old lady is a vulnerable person and it means she can’t decide about living or die. (8.1)

**Example 10:**

I would rather choose to die if one day I become a vegetative stat. I think it’s much better then stay in a hospital and use many live supporter to keep your live going. I don’t want to become a heavy pressure to my families and friends. If we can choose to die in this case, I think it’s more convenient to all of us. (12.1)

In Example 10, 9s agued for the practice of euthanasia from her personal opinion. The message was coded as PE to show how the argument was composed to argue for group position. In task I, the participants used more personal opinion (19.18%) than evidence from the assigned reading (4.11%) to support their group position.

Uptakes as Means of Meaning Construction

Within the 219 messages, uptake, including uptake for continuation of interaction (UTC) and transformation (UTIT) of previous messages comprises 31% of the total postings. This finding indicates that the participants did respond to and expand on the
arguments that the opposite group posted previously. Within the posting coded as UTC, the participants either posted a simple statement to express their disagreement with what someone had argued previously or added personal opinions on what had been argued to expand the initiated arguments as well as to emphasize their disagreements because of their different group position. The postings coded as UTIT not only incorporated the argument in prior messages but also transformed them into a new direction of argument. The initiation of the postings of uptake usually started with the following phrases and continued on their arguments:

1. Yes, …
2. But if…
3. Even if…
4. As you said, …
5. No, …
6. But…
7. So, …
8. You are right…
9. I agree with you, but…
10. Yes, I agree with you, but…
11. Regardless, … we should…
12. I know what you mean, but if…
13. On the other hand,…

Examples 11, 12, and 13 are three examples regarding uptake:

Example 11:

9s: I think it depends on the situation. If someone who already sick for a long time, he/she has the **right to decide** live or die (1.6).

6o: **I know what you mean, but if** the patient is in the vegetative state, nobody know whether or not he thinks he wanna die because he can’t make a decision on his own. **We should make a decision** based on our ability to live (1.7)
Example 12:

6s: in the old woman case it’s a special case and we can’t measure one case for other case and they said that it was a miracle and miracles don’t happen every day…don’t they. (8.2)

6o: As you said, miracle might happen rarely, but the old woman’s family believed in the miracle. What I wanna say is you have many relationship with your family and friends, so you can’t make a decision to die by yourself only. (8.3)

Examples 9 and 10 are two typical examples of uptake to continue arguments (UTC), in which the participants incorporated what had been argued in prior messages to continue their arguments: 6o incorporated the right to make a decision for the practice of euthanasia in 9s’s positing into his argument in example 11 and miracle from 6s’s postings in example 12 and used them to argue against the supporting group. The phrases “I know what you mean” and “As you said” in 6o’s postings were used to indicate that he was aware of what the opposing group argued about in their messages. After that, however, 6o continued with “but if” and “…but” to argue for his group position. Thus, the argument in the same theme was expanded. The other type of uptake was coded UTIT when the argument was incorporated and transformed to a higher level of argument.

Example 13:

8s: if we don’t have the right to take someone’s life, how about an animal’s life?

We have the right to take their life? They are also alive. People kill them for their profit. Why can we take animal’s life? And, why we cannot take people’s life? They are in coma. They cannot think and speak. They seem just vegetable. If we can take animal or vegetable’s life, we can also take someone’s life. It makes sense. (3.6)

6o: Even if you kill animals, you don’t break law in your society. But if you kill human being, you have to go prison. You need to know the society where you live is controlled by law that we made by human being. (3.7)
In Example 11, 6o incorporated what 8s said about the taking of animal’s life as a parallel of taking a human’s life and thus lifted it to a higher level of argument when he argued about law-breaking if people’s life was taken. 6o in this example not only continued the argument in a prior message but also transformed it to a new direction of argument, in this case, the legality of practice of euthanasia.

Within the category of uptake, UTC constitutes 27.40% of the total postings and UTIT 3.65%. Although UTIT is at a much lower percentage of overall postings, its occurrence played a crucial role in expanding the argument because it shifted the direction of the arguments, which stimulated more discussion from both sides. The group members used the argument in UTIT to strengthen their group position while the opposite group tried to post more arguments to argue against it. Two more examples occurred in Thread 1 and 5. Right to die was adopted and transformed into a right to live in Thread 1, and a chance to revive was transformed into no revival from a coma in Thread 5, which was used to initiate a new thread, there is no revive from coma (Thread 14). A detailed discussion of how UTIT expands discussion will be presented below in the third aspect, multiple voices.

Off-Topic Postings

Task I contained many off-task postings, which were all posted in Thread 13, Buffalo soldier. The participants posted a total of 45 off-topic messages (20.55%) to guess their identities and chat about classroom events as well as small talk among the participants. Because it was the participants’ first time participating in the threaded discussion forum and they were registered anonymously, they felt new and excited about their participation. During the post-task interview, when the participants were asked what they thought about the off-task postings, some of them said that they did not care about them while some thought it was interesting to post messages like that so that they could relax for a while from the stress of reading and posting messages. Here are some examples:

Example 14

6s: Yoshi (13.1)
4s: who are you? (13.2)
6s: I am the buffalo soldier. (13.3)
4s: O…ok. What do you want from me? (13.4)
6s: I don’t want anything what do u want from me. (13.5)

Example 15
8o: Yes Yujin…why not? (13.11)
10o: Oh, I not yujin sorry, please guess again. (13.13)

Example 16:
3o: talking about bob marley, I thought cool that American guy that went to our
class (Roger), he stayed for more than 1 month without showering the head!
UURRGG! (13.23)
6s: who didn’t shower (13.24)
3o: the american guy that visited us during Roger’s class. He had a kind of small
rastafari. (13.25)
6s: I DON’T remember him maybe I was absent that daY. (13.26)

These 30 out 45 off-topic messages were all posted in Thread 13. Some participants used
this thread as a social chat room for them to post messages about events either in class or
after class.

Verification of Assigned Tasks
While participating in the threaded discussion, the participants sometimes posted
messages to verify the assigned tasks. Before entering into the threaded discussion, the
participants had only about fifteen minutes to discuss the task with their group members.
They did not get enough time to fully discuss the assigned task before entering the
threaded discussion. In addition, the present study created an assimilated distant
interaction. Once the threaded discussion began, the participants had to use the
discussion forum as a means to verify the assigned task during their participation if they
were not sure of the task demands. Due to this, verification of assigned task occurred
during task engagement, which comprised 4.11% of overall postings. The following
examples illustrate that the participants were confirming they were in the same group for
arguments after the threaded discussion had already begun:
Example 17:

4s: I think we are in the same side, right? (13.6)  
6s: yes we r in the same side…we are the supporting buffalo soldier team…(13.7)

During the orientation for their participation in the threaded discussion, the participants had already been told that if their codes contained ‘s’, they were in a supporting group, but they were in an opposing group if their codes contained ‘o’. However, some of participants did not always pay attention to it. In example 17, after 6s named his group ‘buffalo soldier’, 4s confirmed with 6s that they were in the same group to support the practice of euthanasia. After the confirmation of each other’s identities, 4s and 6s began to discuss whether the government was able to provide financial support to a patient in a coma.

During task engagement, the participants also reminded other participants to follow task instructions regarding the length of their postings as well as reminding each other to concentrate on their task. Examples 18 and 19 are two typical examples that the participants posted to remind each other about their task engagement:

Example 18:

7s: she is in coma again. (14.15)  
8o: plz write over 30 words. (14.16)  
6s: u write over 30. (14. 17)

Example 19:

6s: I am a buffalo soldier. (13.3)  
4s: O…ok what do you want from me? (13.4)  
6s: I don’t want anything what do u want from me (13.5)  
10o: y’all crazy, please let’s talk about you are die or not when you get a serious ill. (13.8)

In Example 18, 8o reminded 7s that she should post longer messages to elaborate her argument. His reminding was questioned by 6s who asked whether 8o himself posted long messages. In example 19, while 4s and 6s were posting nothing related to the assigned topic, 10o posted message 13.8 to remind them to get back to discussion. 10o’s posting (13.8) did play a role in directing 4s and 6s postings:
Example 20:

6s: hey hey the buffalo soldier is serious issue. (13.9)
4s: Yes, we have to catch buffalo to sustain our family. Like, so we need to get huge money to let somebody survive. It’s tough. We have our life. If there were no chances to recover, we need to decide to kill somebody to survive. (13.10)

In message 13.9 6s implicitly pointed out that he used buffalo soldier to indicate that the survival of a patient in a coma was a serious issue. In order to redirect 6s back to the discussion, 4s thus turned buffalos into a metaphor to argue about the possibility of getting financial support from the government. The verification of task occurred when the participants posted messages either to discuss what to do with the assigned task or to confirm that their participation met task requests.

Responses for Further Explanations

As discussed previously, when some participants did not understand a posted message very well, they posted messages to ask for clarifications. If the participant, to whom they asked questions were still posting messages in the same thread, they would clarify whatever was unclear in their messages.

Example 21:

9s: what is the most important thing to live in the world? To learn, to feel, to enjoy…, we need to have a meaningful life, right? But you know what? Some people who are vegetative state they don’t have chance to make that. I totally understand what you mean to live with good and bad things at the same time. But can you tell me how can a vegetative state make their live meaningful? (12.16)

5o: I agree with you, but I think if you have chance to get these things back in the future, why you should choose to die! so I think they will have more chances to recover in the future. (12.17)

9s: because I am the owner of myself, I have the right to do anything I want. Is that okay with you? (12.18)
In Example 21, 9s posted her argument about the meaning of living in the world as well as her argument about being a vegetative state. 5o commented on her argument. After receiving the comment from 5o, 9s further explained what she said in Message 12.16 to face the challenge from 5o.

In some circumstances, participants replied to themselves when they thought they did not say what they had wanted to say completely in a prior message. For example, 8o initiated Thread 5, chance to revive, by simply saying “I agree” in his initiated message. He immediately replied to himself to further explain why he said “I agreed” in the previous message:

Example 22:

If the government supports the medical cost we will have more chance to save a life who is suffering from a terminal illness. In addition, as time goes by the Medical technology is getting much better. It means that people are gaining more Chance to defeat the illness they have. (5.3).

RFE constitutes only 5.02% of the total postings, but it played a role in making arguments move on smoothly. Unclear messages were stated again to provide other participants a better understanding of the unclear messages. The participants, who were challenged, replied to take challenges and further explained to firm up their position.

Controversial Definitions (ADF)

Arguments about definitions (ADF) of controversial issues bring about further discussion. Although ADF usually started with questions at the beginning of the messages, their functions were to argue about the controversy existing in certain words, such as coma, revival, and vegetative state. They were coded as messages for arguing about definitions (ADF) instead of questions without expecting answers (QNA). Thread 12, a vegetative state, and Thread 14, there is no revive from coma, contained most ADF messages because these two threads were at the core of the controversy of the arguments deriving from the practice of euthanasia. The participants argued about the situations of being in a vegetative state and possibilities of revival from a coma. The following are three examples of ADF from different threads. First, 8s posted a message in Thread 2,
we don’t have the right to take someone’s life, to argue about the situation of being in a coma:

Example 23:

If we don’t have the right to take someone’s life, how about animal’s life? We have the right to take their life? They are also alive. People kill them for their profit. Why can we take animals’ life? And, why we cannot take people’s life? They are in coma. They cannot think and speak. They seem just vegetable. If we can take animal or vegetable’s life, we can also take someone’s life. It makes sense. (3.6)

In this message, 8s argued about the meaning of being in a coma, in which the patient could not think and speak and seemed like a vegetable. This definition regarding situations of being in a coma later brought about an argument between taking a human’s life or an animals’ life and finally led to another argument regarding the legality of the practice of euthanasia. Second, in Example 24, 9s argued about a situation of being in a vegetative state in Thread 12:

Example 24:

To live means you can speak out loud, chat with your friends, doing activities, feeling the world…that is the meaning of live. If you become a vegetative state one day, you can’t feel, you can speak, you can’t do anything, is it the life you want? To live without love and emotion, what else do you have? It is just only a body without a spiritual soul. Is it the life you really want??? (12.8)

In this message 9s argued about a situation of being in a vegetative state to support her group position, which raised issues about the meaning of living in the world and the feelings of a person in a vegetative state. Third, 7s posted the following message to initiate Thread 14, which is a transformation from chance to revive to argue about the definition of a revival from a coma:

Example 25:

Only waking up a coma means “revive”? If we are still in the bed…we can not move …we cannot move…we can not go to the bathroom…Most cases were like this! COMA causes permanent brain damage! Be aware of this! Do you really want to awake from coma? (14.1)
In this message, 7s argued about the definition of a revival from a coma. This ADF later engendered many arguments about a situation of being in a coma and the development of medical technology for revival, especially duplication of brain cells and its transplantation into a patient in a coma.

The arguments about definitions of controversial situations of being in a coma, in a vegetative state, and revival from a coma engendered the most discussion among the participants. Many replied to those messages to argue for their group position about the controversy existing in the situations. For this reason Thread 12, vegetative state and Thread 14, there is no revive from coma, grew to become the first and the third longest threads in Task I.

To summarize, this section reports analysis of functions of the postings to maintain the arguments during task engagement. The researcher provided detailed illustrations regarding how the participants composed their messages to maintain the arguments. In the following section, the researcher will further investigate how multiple voices play a role in the expansion of argument as well as the co-construction of meanings of unknown words needed for completion for assigned tasks.

**Multiple Voices**

As Wertsch (2000) points out, “communication is inherently social” (p. 18). The present study was conducted in computer-mediated communication in a threaded discussion forum when the participants argued about issues deriving from a controversial reading. The completion of assigned tasks thus lies in social interaction emerging during task engagement. Social interaction in this study involved not only more than one participant in a task but also in “a specific cultural, historical, and institutional context, and this influences how such action is carried out” (Wertsch, 2000, p. 18). Being divided into two groups to argue about issues deriving from a controversial article, the social interaction among the participants included intersubjectivity (univocality) as well as alterity (multivocality). The following section first discusses evidence of intersubjectivity and then moves to alterity to illustrate the occurrences of social interaction that emerged during the process of completing the assigned task.
Intersubjectivity in Task Engagement

During data analysis, intersubjectivity emerged in three circumstances: 1) the interaction between the author of the assigned reading and the participants who identified evidence from the reading and used it to support their group position; 2) the interaction among group members within the same group when they supported one another to argue against the opposing group; and 3) the interaction among the participants between the two different groups when they indicated partial agreement during their discussion. The occurrence regarding intersubjectivity was related to task requests and participants’ interaction within and across groups during accomplishment of tasks. This interaction can be shown in Figure 4.1:

Figure 4.1 Intersubjectivity in Task Engagement
Figure 4.1 shows that three types of intersubjectivity occurred during task engagement. First, when the participants identified evidence in the assigned reading to support their argument in their future participation in threaded discussion, they interacted with the author in written text and shared his perspective momentarily. Later, when posting messages with evidence from the assigned reading, the participants imbued their voices with the author’s voice. The infusion of the evidence into their postings to strengthen the group’s position allowed the author’s voice to come into play in argument with the participants in the opposing group in the threaded discussion. The participants, who identified and used the evidence, made sense of the author’s view and adapted it into their own for argument. When this occurred, the author of the reading selection played an authoritative role in the interaction because the participants imbued their postings with the author’s voice to strengthen their group’s position. The process of identification of evidence and adaptation into postings for argument created intersubjectivity between the author and the participants. In the following example, 6s used evidence from the assigned reading, in which a firefighter left a living will before he ended up into a coma:

Example 26:

in the fire fighter case ... that man stated that he dont want to live in a coma even before he had a coma ... and he said that literally ... and this is in some cases not in all cases .. so if u know said to ur friend (i didnt want to live in a coma if i had one) in this case u stated that u dont want to live so as an adult and above 18 your words should be done.

In this example, 6s adapted the author’s voice into his own when he used the firefighter’s case to argue for the practice of euthanasia.

Second, intersubjectivity occurred among the participants within the same group when they replied to each other while they were arguing with the opposing group. The occurrence of intersubjectivity was explicit in this use because the participants replied to each other’s messages directly to share their mutual understanding about the viewpoint that they were arguing with the opposing group. Table 4.7 below contains messages posted in Thread 8, old lady, in which participants replied to their group members directly to share a mutual understanding regarding the case of the old lady. Bold font is
used below to illustrate how group members took an idea from one another and showed agreement.

Table 4.7
Explicit Intersubjectivity Within One Group

<table>
<thead>
<tr>
<th>Thread</th>
<th>Time</th>
<th>Partic</th>
<th>Messages</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11:44 10/28</td>
<td>3o</td>
<td>I disagree. How can you have the right to decide?</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>12:10 10/28</td>
<td>9o</td>
<td>I agree with you, because it’s very hard to decide. But when you have a similar problem, you can change your opinion.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>11:56 10/29</td>
<td>3o</td>
<td>Nobody has the power to take another’s life. If we think about the example of the old lady (88 years old), she began to talk and eat after the doctors removed the feeding tube. The old lady is a vulnerable person and it means she can’t decide about living or die.</td>
<td>Used the old lady’s case to indicate it was hard to make a decision.</td>
</tr>
<tr>
<td>8</td>
<td>12:01</td>
<td>9o</td>
<td>It’s true the case of the old woman is a particular case but we must think also this case.</td>
<td>Replied to 3o to share her argument.</td>
</tr>
<tr>
<td>8</td>
<td>12:05</td>
<td>1o</td>
<td>I agree with you. The decision is very difficult, there is a possibility to kill people.</td>
<td>Replied to 9o to share the same viewpoint.</td>
</tr>
</tbody>
</table>

In Table 4.7, 9o directly replied to 3o and 1o directly replied to 9o respectively to indicate their agreement with what had been said in prior messages about the situations in the old lady’s case in Thread 8. In terms of intersubjectivity, the interaction among the participants within the same group was explicit because they replied to their group members directly.

In addition to explicit intersubjectivity when replying to group members directly, the participants within the same group also implicitly reached a certain level of agreement as they collaboratively argued against the opposing group. Because of the asynchronous mode of participation, the participants interacted with one another via posting in a time-delayed fashion. Yet, they needed to support their group members to argue against the opposing group. Once their group members opened a thread or initiated an argumentative idea in the middle of a thread, the rest of group members continued
elaborating what their group members initiated and worked collaboratively to accomplish the assigned task. The initiated idea, like ripples from a stone thrown into a lake, thus spread across threads on the discussion board, either being expanded by group members to firm up their own group position or being challenged by the opposing group. The participants within the same group built up their mutual understanding when they began to elaborate on what their group members initiated to support their group position. The messages in Table 4.8 collected from different threads illustrate how an initiated idea by 9o--that the government should provide financial support to a patient in a coma in Thread 3, assisted suicide--were collaborated on by group members in different threads. Bold font below is used to highlight the idea “government support” across different messages and threads.

Table 4.8
Implicit Intersubjectivity Within Group Members

<table>
<thead>
<tr>
<th>Thread</th>
<th>Time</th>
<th>Partic</th>
<th>Messages</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>11:47</td>
<td>2s</td>
<td>I think it spends too much money on their treatment cost.</td>
<td>Initiated the thread arguing cost of treatment.</td>
</tr>
<tr>
<td>3</td>
<td>12:06</td>
<td>9o</td>
<td>If there is a regulation about the right to die the government could pay for the treatment.</td>
<td>Initiated the idea of ‘government support’.</td>
</tr>
<tr>
<td>3</td>
<td>12:16</td>
<td>8o</td>
<td>If the government provides the cost, I think money will not be a big problem.</td>
<td>Use ‘government support’ in his message.</td>
</tr>
<tr>
<td>3</td>
<td>12:24</td>
<td>4s</td>
<td>Government is not only for sick people. America has to pay much money into the war. Ridiculous, but this is real world.</td>
<td>Argue against ‘government support’.</td>
</tr>
<tr>
<td>5</td>
<td>11:55</td>
<td>8o</td>
<td>If the government supports the medical cost we will have more chance to save a life who is suffering from a terminal illness. In addition, as time goes by the medical technology is getting much better. It means that people are gaining more chance to defeat the illness they have.</td>
<td>8o continued using ‘government support’ in another thread.</td>
</tr>
<tr>
<td>5</td>
<td>11:57</td>
<td>4s</td>
<td>But government can’t afford to pay huge money for those people.</td>
<td></td>
</tr>
</tbody>
</table>
As noted in Table 4.8, 9o initiated an argumentative idea that the government should provide financial support to a patient in a coma when she replied to 2s that the cost of treatment was too high. Her initiated ideas regarding government support were later revoiced by 8o in the same thread and continued being revoiced twice in Thread 5 when arguing about the chance to revive whether the participant could get financial support from the government. 5o also voiced the same idea when he argued with 9s in Thread 12 that if the government could provide financial support, she would choose to live and wait for a chance to revive. In this example, 9o’s idea regarding financial support from the government was shared and elaborated on by her group members many times within and across threads. The revoicing and elaboration of the same idea revealed emergence of an implicit intersubjectivity among the participants when they adopted a group member’s voice into theirs during task engagement.

Third, participants between groups also reached a certain degree of intersubjectivity in spite of being assigned to argue with one another to complete the task. As discussed in the functions of the postings, some participants started their messages with phrases, such as “I know what you mean”, “You are right”, “I agree with you,
but…”, and “Yes, I agree with you, but…” Initiating messages with these phrases indicated that the participants across groups understood, at least to some degree, what the participant from the opposing group were arguing and reached at least partial agreement with what they were arguing. The examples in Table 4.9 illustrate partial argument between participants in different groups:

Table 4.9
Partial Agreement for Intersubjectivity Between Groups

<table>
<thead>
<tr>
<th>Thread</th>
<th>Time</th>
<th>Partic</th>
<th>Messages</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11:49 10/28</td>
<td>9s</td>
<td>I think it depends on the situation. If someone who already sick for a long time, he/she has the right to decide live or die.</td>
<td>Arguing the right to die</td>
</tr>
<tr>
<td>1</td>
<td>12:16</td>
<td>6o</td>
<td><strong>I know what you mean,</strong> but if the patient is in the vegetative state, nobody knows whether or not he thinks he wanna die because he can’t make a decision based on his own. We should make a decision based on our ability to live.</td>
<td>Indicated knowing what 9s said.</td>
</tr>
<tr>
<td>12</td>
<td>12:31</td>
<td>9s</td>
<td>I have two friends who was paralyzed from the neck down in a motorcycle accident, they stayed in a hospital almost 6 years, even they don’t need to worry about the financial problems, in their mind they feel hopeless, they don’t want to live. If you have such as friends like them, what will you do? Can you imagine how their feel about stay in the bed at the hospital for six years? I think it is the most painful thing to them, right?</td>
<td>Argued about the pain of being in a vegetative state.</td>
</tr>
<tr>
<td>12</td>
<td>12:39</td>
<td>6o</td>
<td><strong>u r right</strong>…that case is very very sad. But if you meet complicated situation, you should not avoid even though the situation is vegetative state. One of the meanings of your life is to overcome difficult situation. The process to suffering from difficult situation make you feel live in this world. Your life is not only happiness but also bad accidents. That’s your life.</td>
<td>Partially agreed with what 9s described about being in a vegetative state.</td>
</tr>
<tr>
<td>12</td>
<td>12:53</td>
<td>9s</td>
<td>What is the most important thing to live in the world? To learn, to feel, to enjoy..., we need to have a meaningful live, right? But you know what? Some people who are vegetative state they don’t have chance to make that. I totally understand what you mean to live with good and bad things at the same time. But can you tell me how can a vegetative state make their life meaningful?</td>
<td>Argued about the meaning of being alive.</td>
</tr>
</tbody>
</table>
Table 4.9 –continued

<table>
<thead>
<tr>
<th>Thread</th>
<th>Time</th>
<th>Partic</th>
<th>Messages</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:56</td>
<td>5o</td>
<td></td>
<td>I agree with you, but if you have chance to get these things back in the future, why you should choose to die!! So I think they will have more chances to recover in the future.</td>
<td>Partially agreed with 9s’s argument</td>
</tr>
</tbody>
</table>

In the three examples in Table 4.9, 6o and 5o started their arguments with phrases including ‘I know what you mean’, ‘You are right’, and ‘I agree with you’ to indicate that they understood 9s’s opinion and partially agreed with what 9s argued about. They, however, continued arguing for their own group position. After the discussion of intersubjectivity emerging in multiple voices in social interaction, alterity is the main focus of the investigation in the next section.

Alurity in Task Engagement

According to the assigned task, the participants were requested to argue about controversial issues deriving from the assigned reading. They not only had to argue about the assigned topic but also struggled with the use of their second language to argue with other participants to accomplish the assigned task. The third aspect continues to investigate how voices in conflict emerging during task engagement provided the participants with opportunities to construct meanings for arguments as well as their understanding of unknown words encountered during task engagement.

Task I requested the participants to argue about the controversial topic, assisted suicide. In order to complete the assigned task, the participants not only had to provide strong arguments to support their group position but also had to identify flaws in arguments posted by the opposite group and use them to challenge the opposing group. The interaction in the threaded discussion was not to seek a consensus but to construct new meanings through controversy from different perspectives, a heterogeneous process of interaction. Their interaction was thus multivocal rather than univocal to build up awareness of otherness for meaning construction regarding assisted suicide. Table 4.10
provides an overview of arguments regarding assisted suicide across threads from both sides:

Table 4.10
Evidence of Incorporation and Transformation between Groups Both Within and Across Thread in Task I

<table>
<thead>
<tr>
<th>Issues of arguments</th>
<th>Thread</th>
<th>Partic</th>
<th>Voices in conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right to die</td>
<td>1</td>
<td>3s</td>
<td>A patient in a coma should have a right to die.</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>5o</td>
<td>The patient should have a right to live.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4s</td>
<td>The patient’s family members should have their right to live.</td>
</tr>
<tr>
<td>Legality of euthanasia</td>
<td>2</td>
<td>8s</td>
<td>People in a coma seem just vegetables. People kill vegetables and animals to live.</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6o</td>
<td>Killing animals does not break the law, but killing people does.</td>
</tr>
<tr>
<td>Financial problem</td>
<td>3</td>
<td>2s</td>
<td>A patient in a coma is a financial problem to his/her family.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>9o</td>
<td>The government should provide help.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4s</td>
<td>The government should help more people instead of a few.</td>
</tr>
<tr>
<td>Meaning of being alive</td>
<td>1, 12</td>
<td>9s</td>
<td>To live means you can speak out loud, chat with your friends, doing activity, feeling the world…that is the meaning of being alive.</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>6o</td>
<td>The meaning of being alive is to overcome difficulties.</td>
</tr>
<tr>
<td>Meaning of death</td>
<td>7</td>
<td>4s</td>
<td>People in a coma have no consciousness. It is almost the same as death.</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>10o</td>
<td>The body is still warm, they die?</td>
</tr>
<tr>
<td>Decision-making</td>
<td>4</td>
<td>5s</td>
<td>A decision of disconnection should be made by the patient and family, not by the court.</td>
</tr>
<tr>
<td></td>
<td>1, 12</td>
<td>9s</td>
<td>Having being sick for a long time, the patient should be able to make a decision to die.</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>6o</td>
<td>People in a vegetative state cannot make a decision.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4s</td>
<td>Family members should be able to decide.</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>6o</td>
<td>Family members are not able to decide because their relationship with the patient.</td>
</tr>
<tr>
<td>Duplication of brain cells</td>
<td>14</td>
<td>7s</td>
<td>There is no way to remake brain cells, a science fiction.</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>10o</td>
<td>Years ago going to the moon was a science fiction, but no more.</td>
</tr>
</tbody>
</table>

---

The statements in the column ‘voices in conflict’ are a synthesis of postings among group members.
Table 4.10 –continued

<table>
<thead>
<tr>
<th>Issues of arguments</th>
<th>Thread</th>
<th>Partic</th>
<th>Voices in conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chance of revival</td>
<td>5</td>
<td>8o</td>
<td>Because of advances in technology, a patient in a coma has a chance to revive.</td>
</tr>
<tr>
<td></td>
<td>5, 14</td>
<td>7s</td>
<td>Because brain cells are damaged, there is no revival from a coma.</td>
</tr>
<tr>
<td>Practice of euthanasia</td>
<td>4</td>
<td>7s</td>
<td>The practice is not a direct killing. Organ donations save more lives.</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>1o. 10o</td>
<td>A possibility of killing (1o), murder behavior (10o)</td>
</tr>
<tr>
<td>Functions of hospitals</td>
<td>6, 15</td>
<td>8o</td>
<td>The nature decides the time of someone’s death.</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>7s</td>
<td>Hospitals prolong the patient’s death.</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>5o</td>
<td>Hospitals prolong the patient’s life.</td>
</tr>
</tbody>
</table>

The evidence in Table 4.10 shows voices in conflict due to the nature of the assigned task. Voices in conflict enabled the participants to incorporate an initiated argument from the voice of a member of the opposing group and transform it to voice an argument against the group. The incorporation and transformation of previous arguments from the opposing group into their group’s position lifted the argument often times to a higher level of argument, which later engendered more argument. These voices in conflict occurred within a thread and, most of the time, across threads. Below are two examples selected from Table 4.9 to illustrate incorporation and transformation within a thread and then across threads.

The first example is taken from Thread 2 regarding the legality of the practice of euthanasia. Participant 3o initiated this thread, giving it the title *we don’t have right to take someone’s life*. 8s, in response, argues that

…if we don’t have the right to take someone’s life, how about animal’s life? We have the right to take their life? They are also alive. People kill them for their profit. Why can we take animals’ life? And, Why we cannot take people’s life? They are in a coma. They cannot think and speak. They seem just like vegetable. If we take animal or vegetable’s life, we can also take someone’s life. It makes sense.
In this posting, 8s incorporated and transformed 3o’s voice about not having the right to take someone’s life and extended the argument to include other issues, such as the taking of animals’ and vegetables’ lives and drawing a parallel to taking the lives of human beings. 6o jumped into the argument, adding his own voice, arguing:

Even if you kill animals, you don’t break the law in your society. But if you kill human being, you have to go to prison. You need to know the society where you live is controlled by law that was made by human being.

6o thus took the argument unfolding between 3o and 8s and lifted it to a higher level by voicing the issue of the legality involved in the practice of euthanasia. In response, 8s further voices her group’s position, writing

The law has changed, and it can change again. If the law says killing people is legal, there is no problem. Because people make the law, if people change the law, we can do. Eventually, people have the right to take someone’s life. It is your remark.

Here, 8s picked up 6o’s argument about breaking the law, voicing her group’s position that the practice of euthanasia could be legalized because it was people who made laws and thus it was people who could change them.

In the second example, participant 8o opened Thread 5, giving it the title chance to revive, and in it voiced his group’s position that development of technology could solve the problem of a patient in a coma. He wrote, “…as time goes by the medical technology is getting much better. It means that people are gaining more chance to defeat the illness they have.” 7s, in response, transformed 8o’s argument about a patient’s chances to be revived, arguing, “it is really rare and special cases. In our text, some woman revived from her coma but she just went back! Nobody could not really revive from coma even if they wake up…so there is no chance to revive from coma!” As we can see, 8o’s voice has been incorporated and transformed by 7s from chances to revive because of the development of technology into no chance to revive from a coma.

After posting this message in Thread 5, 7s was compelled to initiate Thread 14, labeled there is no revive from coma, to further voice her group’s position, writing:

Only waking up from coma means “revive”? If we are still in the bed…we can not move…we can not move…we can not go to the bathroom…Most cases were
like this! COMA causes permanent brain damage! Be aware of this! Do you really want to awake from coma?

Here, 8o’s voice had been transformed from ‘chance to revive’ to ‘there’s no being revived from a coma’ because of the inherent conflict between group positions, one supporting euthanasia, the other opposing it. The occurrence of multivoicedness in the threaded discussion also provided opportunities for meaning co-construction regarding unknown words encountered during task engagement, which afforded the participants opportunities to infer their meanings to maintain the flow of arguments.

Table 4.11 illustrates the process of how the concept of ‘vegetative state’ was argued and elaborated on through various voices in conflict. The messages in the table were extracted from a sub-thread in Thread 12, *vegetative state*. Bold font is used below to highlight how the meaning of ‘vegetative state’ was co-constructed by the participants in voices in conflict: The supporting group argued about desperate situations of being in a vegetative state while the opposing group argued about the real meaning of living in the world and waiting for hope in the future.

<table>
<thead>
<tr>
<th>Thread</th>
<th>Time</th>
<th>Partic</th>
<th>Messages</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>12:02</td>
<td>9s</td>
<td>I would rather choose to die if one day I become a <strong>vegetative</strong> state, I think it’s much better then stay in a hospital and use <strong>money</strong> to keep your live going. I don’t want to become a <strong>heavy pressure</strong> to my families and friends. If we can choose to die in this case, I think it’s more convenient to all of us.</td>
<td>Initiated Thread 12 ‘vegetative state’ to argue about the financial burden on the family.</td>
</tr>
<tr>
<td></td>
<td>12:06</td>
<td>5o</td>
<td><strong>On the other hand</strong>, if the government can <strong>support your financial</strong>. I think you choose to live. Also your family wants you revive if you have chance.</td>
<td>Borrowed the idea of money to respond to 9s</td>
</tr>
<tr>
<td></td>
<td>12:13</td>
<td>9s</td>
<td><strong>To live means you can speak out loud, chat with your friends, doing activities, feeling the world…that is the meaning of live.</strong> If you become a vegetative state one day, you can’t feel, you can’t speak, you can’t do anything, is it the life you want? To live without love and emotion, what else do you have? It is just only a body without spiritual soul. Is it the life you really want?</td>
<td>Argued the situations of being in a vegetative state and the meaning of being alive.</td>
</tr>
<tr>
<td>Thread</td>
<td>Time</td>
<td>Partic</td>
<td>Messages</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>--------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>12:16</td>
<td>5o</td>
<td></td>
<td>How do you know the feeling of the people who are in the vegetative state? Maybe they also have some feelings and they just can’t use normal expressions to express their feelings and ideas.</td>
<td>Challenged and expanded the situation of being in a vegetative state from a different perspective.</td>
</tr>
<tr>
<td>12:31</td>
<td>9s</td>
<td></td>
<td>I have two friends who was paralyzed from the neck down in a motorcycle accident, they stayed in a hospital almost 6 years, even they don’t need to worry about the financial problems, in their mind they feel hopeless, they don’t want to live. If you have such as friends like them, what will you do? Can you imagine how their feel about stay in the bed at the hospital for six years? I think it is the most painful thing to them, right? Provided an example to elaborate and to emphasize the pain of being in a vegetative state.</td>
<td></td>
</tr>
<tr>
<td>12:39</td>
<td>6o</td>
<td></td>
<td>u r right…that case is very very sad. But if you meet complicated situation, you should not avoid even though the situation is vegetative state. One of the meanings of your life is to overcome difficult situation. The process to suffering from difficult situation make you feel live in this world. Your life is not only happiness but also bad accidents. That’s your life. Incorporated and transformed the meaning of being alive.</td>
<td></td>
</tr>
<tr>
<td>12:53</td>
<td>9s</td>
<td></td>
<td>What is the most important thing to live in the world? To learn, to feel, to enjoy…, we need to have a meaningful live, right? But you know what? Some people who are vegetative state they don’t have chance to make that. I totally understand what you mean to live with good and bad things at the same time. But can you tell me how can a vegetative state make their life meaningful? Responded to 6o to argue about the meaning of being alive again.</td>
<td></td>
</tr>
<tr>
<td>12:56</td>
<td>5o</td>
<td></td>
<td>I agree with you, but if you have chance to get these things back in the future, why you should choose to die!! So I think they will have more chances to recover in the future.</td>
<td>Extended 9s’s argument</td>
</tr>
<tr>
<td>1:00</td>
<td>9s</td>
<td></td>
<td>Because I am the owner of myself, I have the right to do anything I want. Is that okay with you??</td>
<td>Responded to 5o.</td>
</tr>
<tr>
<td>1:08</td>
<td>5o</td>
<td></td>
<td>Yes!! i agree with you!! But the point is you can decide, not others decide it, right? So if you are in the vegetative state, you can’t decide it.</td>
<td>Challenged 9s’s argument about the decision-making.</td>
</tr>
</tbody>
</table>
In this sub-thread 9s, 5o, and 6o voiced their group position about the situation of being in a vegetative state. In his pre-task VKS, 6s indicated that he did not know the word *vegetative* before participating in the threaded discussion. The voices in conflict read in these postings provided 6s multiple opportunities to encounter this unknown word embedded within them. In an interview following the task, 6s stated that although he did not post any messages within this thread, he read them all, and the conflicting voices (i.e., others’ postings) helped him come to understand the word’s meaning. Although 6s did not contribute to this thread, he claimed to have learned the word’s meaning by reading others’ arguments. The several voices in conflict in the table provided opportunities for 6s to construct the meaning of ‘vegetative’.

Table 4.12 illustrates an example from 5o to continue with the theme of multivoicedness for meaning construction of unknown words. The illustration shows how 5o, although he indicated he did not know the meaning of the word ‘revive’ before participation, used it appropriately in three different postings, thus indicating he appropriated the word during task engagement.

<table>
<thead>
<tr>
<th>Thread</th>
<th>Time</th>
<th>Partic</th>
<th>Messages</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>11:55</td>
<td>8o</td>
<td>If the government supports the medical cost we will have more chance to save a life who is suffering from a terminal illness. In addition, as time goes by the medical technology is getting much better. It means that people are gaining more chance to defeat the illness they have</td>
<td>A general description of ‘revival’ without the term</td>
</tr>
<tr>
<td></td>
<td>11:58</td>
<td>5o</td>
<td>Everyone wants to live in the world although they are in the danger situation. For example when you drop in the valley, you hope someone can survive you. Also, old woman said she wanted to wait on a decision.</td>
<td>‘Revive’ is not used in this reply</td>
</tr>
<tr>
<td>5</td>
<td>12:10</td>
<td>7s</td>
<td>it is really rare and special cases. In our text, some woman revived from her coma but she just went back! Nobody could not really revive from coma. Even if they can wake up, it does not mean he/she can go back their normal life. They still have mental or physical problem which can not live normally life. So the is no chance to revive from a coma!</td>
<td>An elaboration of ‘revive from a coma’</td>
</tr>
<tr>
<td>Thread</td>
<td>Time</td>
<td>Partic</td>
<td>Messages</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>--------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>12</td>
<td>12:02</td>
<td>9s</td>
<td>I would rather choose to die if one day I become a vegetative state, I think it’s much better then stay in a hospital and use money to keep your live going. I don’t want to become a heavy pressure to my families and friends. If we can choose to die in this case, I think it’s more convenient to all of us.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12:06</td>
<td>5o</td>
<td>In the one hand, if the government can support your financial, I think you choose to live, also your family want you <strong>revive</strong> if you have a chance.</td>
<td>The first time 5o used ‘revive’ to reply to messages</td>
</tr>
<tr>
<td>14</td>
<td>12:17</td>
<td>7s</td>
<td>Only <strong>waking up</strong> from a coma means “revive”? If we are still in bed….we can not move …we can not go to the bathroom…Most cases were like this! COMA causes permanent brain damage! Be aware of this! Do you really want to <strong>awake from</strong> coma?</td>
<td><strong>Synonym of ‘revive’</strong></td>
</tr>
<tr>
<td></td>
<td>12:23</td>
<td>5o</td>
<td>For your opinion, maybe in the future, the technology can solve this problem. So they will have a chance to <strong>recover or revive</strong>.</td>
<td>The second time 5o used ‘revive’ to reply to a prior message containing ‘revive’ as well as synonym ‘recover’</td>
</tr>
<tr>
<td>Another</td>
<td>12:17</td>
<td>7s</td>
<td>Only waking up from a coma means “revive”? If we are still in bed….we can not move …we can not go to the bathroom…Most cases were like this! COMA causes permanent brain damage! Be aware of this! Do you really want to awake from coma?</td>
<td></td>
</tr>
<tr>
<td>sub-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>thread</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12:22</td>
<td>8o</td>
<td><strong>Revival</strong> is to be against death. If you have the willing to live, then you will have the <strong>chance to revive</strong>.</td>
<td>Noun form as well as verb form</td>
</tr>
<tr>
<td></td>
<td>12:25</td>
<td>7s</td>
<td>So live in my bed for eternity? Do you think it is really alive? I would rather suicide! If I could!</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12:29</td>
<td>5o</td>
<td>In your opinion, because the medicine can not cure you. Following technique developed, you may <strong>recover</strong> into the normal situation how do you choose?</td>
<td>Responded to arguments containing ‘revive’ and ‘revival’; indicated he knew an appropriate synonym, recover.</td>
</tr>
</tbody>
</table>
In this thread, *chance to revive*, 5o first encountered the unknown word ‘revive’ used to label the thread initiated by 8o, but he did not use ‘revive’ in his reply. In response to 9s in Thread 12, *vegetative state*, 5o wrote, “your family want you *revive* if you *have a chance*”, a phrase appropriately incorporating both ‘revive’ and ‘chance’, but within a different syntactic pattern. In Thread 14, 5o responded to 7s regarding the argument about ‘revival from a coma’ by adding a synonym, ‘recover’, as well as ‘revive’. Within Thread 14, 5o also replied to messages posted by 7s and 8o when they argued about ‘revival from a coma’, thus allowing 5o the opportunity to see and later use the verb, ‘revive’ in his postings. Finally, in Thread 12 after reading 9s’s posting about her friends’ stay in a hospital, 5o employed ‘revive’ twice in his posting without encountering it embedded in 9s’s message. Here, 5o was able to use the word ‘revive’ appropriately and independently in his reply. In sum, during the process of participation in the arguments in Thread 5, 12, and 14, 5o was able to take advantage of the scaffolding collectively constructed by the other participants. He used their postings as thinking devices, appropriated their words, and made them his own. Starting as a novice, 5o became an expert user of the word ‘revive’ by the end of the threaded discussion, as demonstrated in his replies to others’ messages.
To summarize, multiple voices emerging in a threaded discussion include both intersubjectivity (univocality) and alterity (multivocality) in spite of interaction regarding arguments of controversial topics. The emergence of multiple voices engendered more interaction to meet task demands as well as meaning co-construction regarding unknown words encountered during task engagement. The participants either within the same group or across groups collaboratively accomplished the assigned tasks.

Task II: Mandatory Uniform Policy

The purpose of Task II was to investigate whether the findings in Task I were consistent if the participants read another article and participated in a threaded discussion a second time after they became familiar with task instructions as well as experience participating in a threaded discussion forum. Because Task II was conducted to seek the consistency across tasks, no research questions are needed in this section. Data analysis followed the same procedures for reporting results in Task I to investigate three aspects regarding the roles of E/N, the functions of the postings to maintain the flow of arguments, and multiple voices emerging during task engagement were examined across tasks. The next section will start with an overview of Task II and then discuss each aspect accordingly.

An Overview of Task II: Mandatory Uniform Policy

In Task II, the participants read the article, Dressing for Success, and argued about the mandatory school uniform policy discussed in the reading. The participants initiated 11 threads and posted 144 messages in Task II. Unlike Task I, there were 15 participants participating in Task II because 6s and 1o were absent. The researcher collected 144 messages during a period of about 80 minutes on the second Friday. Table 4.13 displays the distribution of threads, number of messages, initiators, and the starting and ending time of each thread in Task II:
Table 4.13
The Distribution of Threads in Task II

<table>
<thead>
<tr>
<th>Thread</th>
<th>Number of messages</th>
<th>Initiator</th>
<th>Initiated/Ending Time/Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Financial burden</td>
<td>33</td>
<td>8o</td>
<td>9:56--10:55 11/5</td>
</tr>
<tr>
<td>2. Monotonous style</td>
<td>18</td>
<td>8o</td>
<td>9:59--10:54 11/5</td>
</tr>
<tr>
<td>3. Uncomfortable</td>
<td>13</td>
<td>10o</td>
<td>10:01--10:48 11/5</td>
</tr>
<tr>
<td>4. Student right</td>
<td>18</td>
<td>9o</td>
<td>10:03--10:55 11/5</td>
</tr>
<tr>
<td>5. The benefits</td>
<td>20</td>
<td>4s</td>
<td>10:05--10:56 11/5</td>
</tr>
<tr>
<td>7. Dressing for success</td>
<td>3</td>
<td>7s</td>
<td>10:09--10:20 11/5</td>
</tr>
<tr>
<td>8. Uniform x behavior</td>
<td>3</td>
<td>3o</td>
<td>10:10--10:29 11/5</td>
</tr>
<tr>
<td>10. In school’s case</td>
<td>11</td>
<td>8s</td>
<td>10:16--10:53 11/5</td>
</tr>
<tr>
<td>11. Students need regulation</td>
<td>7</td>
<td>7s</td>
<td>10:35--10:56 11/5</td>
</tr>
</tbody>
</table>

As shown in Table 4.13, 5 participants from the opposing group and 3 participants from the supporting group together initiated 11 threads in Task II. All initiated messages received responses and were developed into threads with arguments from both sides. The five longest threads were financial burden, containing 33 messages; the benefits, containing 20 messages; monotonous styles, containing 18 messages; student right, containing 18 messages, and freedom, containing 15 messages. As revealed from the length of these five longest threads, the arguments especially focused on the financial burden that uniforms caused a poor family, the benefits of wearing school uniforms, the monotonous style of uniforms, and students’ right of choosing clothes. The following is a brief summary of each thread emerging in Task II.

8o identified the evidence from the assigned reading and used to initiate Thread 1, financial burden, which argued about an additional cost that the mandatory uniform policy caused a poor family. This thread consisted of 33 messages from both sides. The argument within this thread focused on the controversy between the cost of uniforms and regular clothes. The opposing group constantly argued that wearing uniforms was an additional cost to a poor family while the supporting group argued that wearing freely cost more because the students did not want to look poor and ended up spending more money on clothes.
8o used evidence from the assigned reading and used it to initiate Thread 2, *Monotonous style*, to argue about students’ lack of chances to express their own styles when wearing uniforms. The argument in this thread was about whether or not students needed to express their styles at school as well as their purposes for going to school. The participants from the opposing group argued that students could not show their personal styles because of wearing uniforms while the participants in the supporting group argued that studying was the most important to the students and that they would not be the same because of different personalities in spite of wearing uniforms.

10o initiated Thread 3, *Uncomfortable*, to argue about the discomfort of wearing uniforms and necessary regulations set to students at school. The arguments in this thread started from the discomfort of wearing uniforms, the limitation set on students, wasting time on choosing clothes in the morning, and then ended up at the arguments of materials used to make uniforms. The participants from both sides argued for their own group position about comfort and discomfort of wearing uniforms.

9o initiated Thread 4, *Student right*, to argue about students’ rights to decide their styles. The supporting group argued that wearing uniforms created an atmosphere to study and that students could express themselves by their ways of talking and behaviors. High school students were young and needed regulation at school after all. The opposing group argued that a school was a place for education and needed to teach students’ creativity instead of using regulation for everything. The conflict in this thread lay between students’ right of choosing their clothes and the need of regulation and motivation for students to study at school.

4s initiated Thread 5, *Benefits*, to argue about benefits of wearing uniforms. The benefits included money saving, student discipline, and opportunities for building up relationships with friends because of their personalities instead of fashion. The opposing group argued that wearing uniforms dampened students’ creativity because choosing clothes was a way for students to show their personalities. The wearing of uniforms was the only way a school could use to control students and also to make money from students. In this thread, the supporting group focused on opportunities to attract friends with their personalities while the opposing group argued about choosing uniforms as a way to show their personalities and to learn creativity.
10o initiated Thread 6, *Not certainly success*, to argue that wearing uniforms had no guarantee of success. This thread received only one response. It ended after 5s used evidence from the assigned reading to argue that wearing of uniform set students’ minds to learn.

7s initiated Thread 7, *Dressing for success*, to argue against 10o’s argument in Thread 6. She used the California case from the assigned reading to support her argument, a dramatic result in students’ success with a mandatory uniform policy in the western state. The opposing group argued that buying cheap uniforms was not a reality in the US, and that wearing regular clothes was a way for students to find their identities.

3o initiated Thread 8, *Uniform x behavior*, to argue about the relationship between wearing uniform and students’ behavior. She argued that wearing uniforms did not guarantee a reduction of unwanted behaviors. The supporting group argued that the California case was evidence that wearing uniforms could reduce violence on campus.

4o initiated Thread 9, *Freedom*, to argue that wearing uniforms made students feel like in the army, loosing their freedom to choose what to wear. The supporting group argued about the need to regulate students, meaning of freedom, and the importance of judging inner characteristics instead of appearances.

8s initiated Thread 10, *In school’s case*, arguing that schools had responsibilities to take care of students, and that wearing uniforms distinguished students from intruders to increase safety on campus. The opposing group challenged her point by arguing that schools were a place for education and they should think of other ways to educate students instead of using uniforms to control them. The entire thread was arguments about whether or not schools should use uniforms to regulate students’ behaviors for campus safety.

7s initiated Thread 11, *Students need regulation*, to argue about wearing uniforms as a means of regulations. Students could show their creativity in selecting clothing after school. The wearing of uniforms could be the best way to control students’ behaviors because it could distinguish students from outsiders, and that wearing uniforms protected poor students from being humiliated by the rich students. The opposing group argued that wearing uniforms should not be the way to regulate students because students should be taught to respect poor students and to learn not to compare their clothes with others.
Roles of Expert and Novice in Task II

As defined previously, the role of expert in the present study was the participants who were able to initiate and set the theme of discussion within each thread, providers of argumentative ideas in the middle of threads, and more capable participants regarding word knowledge needed to complete tasks.

The overview of Task II shows that different participants were able to initiate different threads for arguments. 3o, 4o, 8o, and 10o together initiated 7 threads while 4s, 7s, and 8s initiated 4 threads in the threaded discussion. Similar to the results of Task I, participants including 2s, 3s, 5s, 9s, 2o, 5o, 6o, and 9o were able to provide argumentative ideas to generate more arguments in the middle of threads. All participants in Task II either initiated threads to set forth arguments in each thread or brought about argumentative ideas in the middle of threads to generate more arguments among the participants about controversy existing in the mandatory uniform policy. Each participant played a role contributing to the progression of task completion. The participants therefore again played a fluid role in arguments for task completion. Table 4.14 shows the roles the participants played regarding arguments in Task II:

Table 4.14
Roles of Participants Contributing to Completion of Task II

<table>
<thead>
<tr>
<th>Participant</th>
<th>Role of participants to completion of task</th>
</tr>
</thead>
<tbody>
<tr>
<td>2s</td>
<td>• Initiated the idea that wearing uniforms makes students comfortable because they don’t feel the differences between the rich and the poor if there is no mandatory uniform policy.</td>
</tr>
<tr>
<td>3s</td>
<td>• Initiated the idea that schools have systems to help poor students get cheap uniforms the same time as 5s did.</td>
</tr>
</tbody>
</table>
| 4s          | • Initiated Thread 5, *The benefits*, to argue about benefits of wearing uniforms.  
• Argued that wearing uniforms sets the students in the right mind-set to learn.  
• Argued that wearing uniforms provides students with opportunities to express their personalities without fashion. |
| 5s          | • Initiated the ideas of helping systems to get cheap uniforms in the US the same time as 3s. |
Table 4.14—continued

<table>
<thead>
<tr>
<th>Participant</th>
<th>Role of participants to completion of task</th>
</tr>
</thead>
</table>
| 7s          | • Initiated Thread 7, *Dressing for success*, to argue that wearing uniforms brings about success to students.  
              • Initiated Thread 11, *Students need regulation*, to argue about the need of wearing uniforms as a means of regulating students. |
| 8s          | • Initiated Thread 10, *In school’s case*, arguing that wearing uniforms brings about safety on campus.  
              • Initiated the idea that wearing freely cost more money than wearing uniform in Thread 1. |
| 9s          | • Initiated the idea that choosing what to wear every day wastes time in the morning. |
| 2o          | • Argued that wearing uniform has no guarantee of protecting students from violence. |
| 3o          | • Initiated Thread 8, *Uniform x behavior*, arguing about the relationship between wearing uniforms and students’ behaviors. |
| 4o          | • Initiated Thread 9, *freedom*, arguing about students’ freedom and regulation set at school. |
| 5o          | • Initiated the ideas that poor materials make the wearing of uniforms uncomfortable. |
| 6o          | • Initiated the concept of social status regarding discomfort of wearing regular clothes to certain students because of the existence of the rich and the poor among them. |
| 8o          | • Initiated Thread 1, *financial burden*, to argue about additional cost of uniforms to the poor family.  
              • Initiated Thread 2, *monotonous style*, to argue about students’ lack of creativity when wearing uniforms. |
| 9o          | • Initiated Thread 4, *Student right*, to argue that students should have their rights to decide what to wear.  
              • Initiated the idea that students should learn what to wear at school. It was education. |
| 10o         | • Initiated Thread 3, *Uncomfortable*, to argue about the discomfort of wearing uniforms.  
              • Initiated Thread 6, *Not certainly for success*, to argue that wearing uniforms does not guarantee students’ success. |

As seen in Table 4.14 each participant in Task II made his/her contribution to the completion of the task. Different participants were able to initiate different threads to set a theme to start arguments about the assigned topic for the rest of the participants to follow their initiated messages and expand arguments. Some participants, although not being able to initiate any threads, contributed their unique ideas into on-going arguments.
for further discussion. The completion of the task relied on collaboration with one another both within and across groups. The role of expert regarding initiating ideas for arguments thus was consistent with the findings in Task I: The participants played a fluid role as the task advanced.

As for the roles of expert and novice regarding vocabulary knowledge needed to complete Task II, a comparison of pre- and post-task VKS indicates that the participants had different degrees of word knowledge in the assigned reading for Task II. After comparing pre- and post-task VKS, the labels containing unknown words, and a review of all posted messages, ‘burden’, ‘monotonous’, ‘discipline’, and ‘mandatory’ were chosen for investigation. Table 4.15 shows participants’ different degrees of word knowledge about these four words. The symbol $\times$ represents that the participant did not know the word before or after participation, and the symbol $\sqrt{\text{v}}$ represents that the participant knew the word before participation or were able to develop a better understanding of these words during task engagement. The symbol $\times\sqrt{\text{v}}$ thus indicates that the better understanding of these words resulted from task engagement.

<table>
<thead>
<tr>
<th>Word</th>
<th>Partic.</th>
<th>2s</th>
<th>3s$^5$</th>
<th>4s</th>
<th>5s</th>
<th>7s</th>
<th>8s</th>
<th>9s</th>
<th>2o</th>
<th>3o</th>
<th>4o</th>
<th>5o</th>
<th>6o</th>
<th>8o</th>
<th>9o</th>
<th>10o</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burden</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\times$</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\times$</td>
<td>$\times$</td>
<td></td>
</tr>
<tr>
<td>Monotonous</td>
<td>$\times$</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discipline</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mandatory</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\times$</td>
<td>$\sqrt{\text{v}}$</td>
<td>$\sqrt{\text{v}}$</td>
<td></td>
</tr>
</tbody>
</table>

A review of postings in Task II reveals that the participants did not use words identified by other participants as unknown in their messages for argument as many times as they did in Task I. 8o initiated Thread 1, financial burden, and Thread 2, monotonous

$^5$ Although 3s did not indicate in her post-task VKS that she learned any words in Task II, she came to a better understanding of ‘burden’ and was able to post messages in the Thread, financial burden’. A further discussion will be presented in RQ #2, word appropriation strategies.
style, containing two words ‘burden’ and ‘monotonous’ identified by other participants as unknown before participation. The participants, 7s, 8s, 4o, 10o used ‘burden’ 4 times in messages across threads while ‘monotonous’ was not used in any messages at all. ‘Discipline’ was used four times: twice by 4s and one time each by 7s and 9o in arguments. ‘Mandatory’ was used twice by 7s her arguments. Table 4.16 shows the embedding of each of these four words in messages and labels of threads:

<table>
<thead>
<tr>
<th>Unknown word</th>
<th>Posted messages by</th>
<th>Frequency of embedding in postings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burden</td>
<td>8s in 1.2, 4o in 1.7, 10o in 3.2, 7s in 11.1</td>
<td>4</td>
</tr>
<tr>
<td>Monotonous</td>
<td>This word was used to label Thread 2, monotonous style, containing 18 messages, but was never embedded in messages.</td>
<td>0</td>
</tr>
<tr>
<td>Discipline</td>
<td>4s in 5.1 and 5.17, 9o in 5.16, 7s in 11.1</td>
<td>4</td>
</tr>
<tr>
<td>Mandatory</td>
<td>7s in 7.1, 7s in 11.6</td>
<td>2</td>
</tr>
</tbody>
</table>

Comparing with the frequency of the embedding of unknown words in postings for arguments, within words identified as unknown in Task I, ‘coma’ was used 17 times, ‘euthanasia’ 6 times, ‘revive’ 8 times, and ‘vegetative’ 9 times, but in Task II, ‘burden’ and ‘discipline’ were each used only 4 times, ‘mandatory’ two times, and none for ‘monotonous’. In Task II, the participants thus did not have many opportunities to encounter these words in postings so infer their meanings in contexts while reading and responding to messages.

In introspective post-task interviews, the participants said that because they had personal experience with the assigned topic in Task II, the mandatory uniform policy, they could reply to prior messages based on the content of the postings and then used their own words to express what they wanted to say in their responses. That way, it was
not necessary for them to use those words in their postings. The findings from the
interviews suggest that words underlined as unknown were not central to the core of the
discussion. For example, ‘monotonous’ is only tangentially connected to the core topic,
mandatory school uniform policy. By contrast, the unknown words in Task I were
frequently embedded in their postings for arguments so that they were able to guess their
meanings in contexts when reading to reply to prior postings. In addition, the words,
such as coma, vegetative, and coma, were the core controversy in arguments regarding
assisted suicide. As discussed in the functions of the postings, the participants in Task I
argued about the controversial definitions among these words. 7s, for example, argued
that only waking up from coma means revive? In that thread, the meanings of ‘revive’
and ‘coma’ were argued in 45 messages, which led to a better understanding of these two
words. 8s, for example, argued that when someone was in a coma, they seemed just like
vegetables. Her arguments regarding the definition of coma provided assistance for
meaning inference of this word.

Similar situations occurred in Task II. During the interview, the participants said
that they guessed the meaning of ‘monotonous’ when they read 8o said, “lack their
chance to express their own style” in Thread monotonous style. They also said that the
phrase “the same” was embedded in many messages for them to make sense of this word.
They also mentioned that they inferred the meaning of financial burden when they read
phrases, such as “has to buy”, “spend extra money” and “additional cost” in different
postings. The reading of these phrases in messages helped them reply to prior messages
in the threads containing unknown words although they were not sure of the meaning of
these words. Research Question #2 concerning word appropriation strategies will further
address how the participants developed their understanding of unknown words
encountered during task engagement.

To summarize, results of the findings regarding the roles of E/N in leading
arguments in Task II were similar to the ones in Task I. Each participant played a role in
contributing to arguments, either initiating threads to set a theme for discussion within
each thread or providing argumentative ideas in the middle of each thread. Their roles
were fluid rather than static; they collaboratively assisted their group members to argue
against the opposing group and in the meantime struggled to generate most arguments

147
with the opposing group to fulfill the task requests. With regard to word knowledge in Task II, the roles of E/N were made evident because different participants had different degrees of knowledge regarding words from the assigned reading. By reading postings from more capable peers, the participants who did not know, for example, ‘monotonous’ and ‘burden’ were able to participate and respond to messages in Threads labeled, *financial burden* and *monotonous style*. In the interviews, the participants reported that the reading of the postings did help them reply to messages although they were not sure of the exact meanings of these words but were able to guess their meanings and then used their own words to express their ideas to maintain the flow of arguments.

The Functions of the Postings in Task II

In Task II, the participants read an article entitled *Dressing for Success* and then argued about the mandatory school uniform policy. Following the coding schemes used for Task I, the 144 messages collected in Task II were coded to seek consistency regarding the functions of the postings to maintain the flow of arguments across tasks.

These coding schemes of functions of postings included: 1) various purposes for the use of questions in their postings including QNA, QEA, QCL, and QCV; 2) using evidence from the assigned reading and personal opinion or experience to support their arguments (AR and PE); 3) using uptake from prior messages to extend their arguments (UTC and UTIT); 4) off-topic discussion (OT); 5) verifying the assigned task with other participants (VT); 6) arguing about the controversial definitions of certain issues deriving from the assigned topic (ADF); and 7) replying for further explanations (RFE).

Results of the coding show that the participants in Task II posted messages for various functions in order to maintain the flow of arguments. Participants embedded questions in their postings for various purposes. The percentage of using questions in messages comprises 17.36% of the total postings. Within these different types of use of questions in arguments, QNA constitutes 80% of the use of questions, which indicates that the participants tended to use questions to identify flaws in prior messages for challenging rather than expecting answers to their questions, asking for clarification, and convincing. Table 4.17 shows the distribution of the functions of the postings in Task II:
Table 4.17
The Functions of the Postings in Task II

<table>
<thead>
<tr>
<th>Coding</th>
<th>Thread</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>QNA</td>
<td></td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>20</td>
<td></td>
<td>13.89%</td>
<td></td>
</tr>
<tr>
<td>QEA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.69%</td>
</tr>
<tr>
<td>QCL</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td>2</td>
<td>1.39%</td>
</tr>
<tr>
<td>QCV</td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>1.39%</td>
<td>(17.36%)</td>
</tr>
<tr>
<td>AR</td>
<td></td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>20</td>
<td>13.89%</td>
<td></td>
</tr>
<tr>
<td>PE</td>
<td></td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>35</td>
<td></td>
<td>24.31%</td>
<td></td>
</tr>
<tr>
<td>UTC</td>
<td></td>
<td>12</td>
<td>7</td>
<td></td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>31</td>
<td></td>
<td>21.53%</td>
<td></td>
</tr>
<tr>
<td>UTIT</td>
<td></td>
<td>5</td>
<td>2</td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>10</td>
<td></td>
<td>6.94%</td>
<td></td>
</tr>
<tr>
<td>OT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>0.00%</td>
<td></td>
</tr>
<tr>
<td>VT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>1.39%</td>
<td></td>
</tr>
<tr>
<td>ADF</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td>9</td>
<td></td>
<td>6.25%</td>
<td></td>
</tr>
<tr>
<td>RFE</td>
<td></td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td>1</td>
<td></td>
<td>3</td>
<td>4</td>
<td></td>
<td>12</td>
<td></td>
<td>8.33%</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.17 suggests that all functions of postings in Task I remained almost the same as the ones in Task II, except for the category concerning off-topic postings. Results of the distribution of the functions of postings in Task II will be compared with the ones in Task I later to illustrate the participants’ different performance between the two tasks.

In the previous discussion regarding the functions of the postings in Task I, the researcher used excerpts for illustrations. In the following discussion for Task II, the researcher chooses to use a thread to illustrate how most of these functions emerged in a thread for the maintenance of the arguments between messages.
Table 4.18 Thread 2: Examples of Functions of Postings in Task II

<table>
<thead>
<tr>
<th>Messages</th>
<th>Code</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 8o Since the uniform exists the students would probably lack their chance to express their own style. Especially teenagers have a strong willing to express themselves to other people.</td>
<td>AR</td>
<td>9:59</td>
</tr>
<tr>
<td>2 6o That’s a good opinion. I support this statement.</td>
<td>UTC</td>
<td>10:00</td>
</tr>
<tr>
<td>3 8s You may be able to find your style when you wear a uniform. If they want to express themselves, they cannot affect just small problem. It cannot interrupt their willing.</td>
<td>UTC</td>
<td>10:03</td>
</tr>
<tr>
<td>4 8o Could you explain the reason plz?? You didn’t explain the reason...Actually I had the experience of wearing school uniform for 6 years, and it was horrible for me. I didn’t have chance to express my own style in school.</td>
<td>QCL (PE)</td>
<td>10:11</td>
</tr>
<tr>
<td>5 3s why you need to express your mind in school? We can express out of school, and you can express in school not just uniform, right?</td>
<td>QCV</td>
<td>10:24</td>
</tr>
<tr>
<td>6 8o I didn’t say expressing my mind…I said what I want is a way to express MYSELF (my identity)...and most teenagers have a strong will to express themselves to their friends. The place is school.</td>
<td>RFE</td>
<td>10:54</td>
</tr>
<tr>
<td>7 2s Most people mean the uniform used to limit students’ freedom. However, I don’t agree with the thought. Although they wear uniform, they tend to create their unique style. Of student to wear the uniform, ANYONE don’t look the same person.</td>
<td>UTIT</td>
<td>10:05</td>
</tr>
<tr>
<td>8 2o I had a manual “How to wear school uniform” when I was in junior and high school! EVEN we were imposed HOW TO WEAR the uniform!! It is IMPOSSIBLE to show creativity when we weared school uniform!!</td>
<td>PE</td>
<td>10:10</td>
</tr>
<tr>
<td>9 5s I think that you to school to study no to sow how you dress or show your own style. If you want to you’re your own style go to parties or any places and you can show your style.</td>
<td>UTC</td>
<td>10:20</td>
</tr>
<tr>
<td>10 5s I think that when you are in school you have to be serious because you go to school to study. In addition, go to school is the responsibility of each student is like a work. If you work in a company or you are a lawyer you are not going to wear clothes that you can express your style, you have to wear clothes to get a job or to have clients.</td>
<td>UTIT</td>
<td>10:18</td>
</tr>
<tr>
<td>11 8o However, for teenagers clothing is a way of finding their identity. If we make the students wear uniforms, it’s segregating the students from what they really are…</td>
<td>PE</td>
<td>10:25</td>
</tr>
<tr>
<td>12 5o In my opinion, you couldn’t show your own style because all student wear the same. in addition although students don’t reach adult, why don’t they have a right to show their style? Also if they can get used to show their own style when are students, they would know how to show their style in the future!! So, I deeply support student don’t need to wear the uniform!!</td>
<td>UTC</td>
<td>10:24</td>
</tr>
<tr>
<td>13 3s not wear uniform makes some trouble. for example, rich student can express their own style, how about the poor student? And some rich student hate the poor student just they can express cool.</td>
<td>QNA</td>
<td>10:28</td>
</tr>
<tr>
<td>14 9o When you are student, you want to express your creativity at school and not out because the school is your life. You spend much time in class and there you form your personality, with clothes too.</td>
<td>UTC</td>
<td>10:37</td>
</tr>
</tbody>
</table>

150
Table 4.18 contains 14 messages posted in Thread 2, *monotonous style*, to provide a picture of how the participants composed their messages to argue about monotonous style regarding the mandatory uniform policy in Task II. The messages regarding arguments about monotonous style in Table 4.18 were extracted from Thread 2 in Task II, in which the postings were composed from both sides to argue about whether or not the mandatory uniform policy dampened students’ creativity and limited their freedom to express their personal dressing styles. The codes in these messages included QNA/QCL/QCV, AR/PE, RFE, and UTC/UTIT.

For QNA, 3s argued “How about the poor student?” in message 13. When she used the “How about” question in her message, she did not expect an answer from 5o but used it to challenge what 5o said in his message (2.12). For QCL, 8o asked 8s to explain what she meant by “You may be able to find your style when you wear a uniform” by saying “Could you explain the reason plz??? You did not explain the reason…” in message 4. However, he did not receive a response from 8s. For QCV, 3s used the tag question “right?” to ask for agreement from 8o.

With regard to AR/PE in Thread 2, the participants also used evidence from the assigned reading to strengthen their own arguments. 8o identified the evidence from the assigned reading that if wearing uniforms the students “lack their chances to express their own style”. “Monotonous style” was a phrase that 8o identified from the assigned reading and used it to label Thread 2 to set the theme of arguments. In message 11, 8o used his personal opinion to reply to 5s.

When reading and replying to messages, the participants also incorporated what had been argued in prior messages to continue the arguments. For example, 8s in message 3 continued 8o and 6o’s argument about “chances to express their own style” to argue that the students were still able to find their styles despite wearing uniforms. The participants were also able to transform and initiate arguments in the middle of the thread. For example, 5s provided a new argumentative idea, that for students, wearing uniforms was a responsibility. He then drew a parallel to dressing professionally for a lawyer. It was a responsibility for students to wear uniforms to school to show their profession as students and study hard. 5s’s argument lifted the argument from dressing for personal style to wearing uniforms to show a professional image of being students.
The codes about QNA/QCL/QCV, AR/PE, RFE, and UTC/UTIT have been discussed in messages in Thread 2. The following will discuss VT and ADF in Task II.

Participants also posted messages to verify task requests. Example 27 illustrates messages for VT between 8s and 10o about what should be included in arguments while they were posting messages to defend their own group position:

Example 27:

10o Wearing a uniform will make more uncomfortable situation, they (teacher) may suggest to limit shoes’s style, cut hair… (3.1)

8s In my case, I have worn the uniform, but I felt comfortable. And we are **just discussing the uniform, not hair**. (3.2)

10o We can talk about other side effects through wearing a uniform, **you mean we cannot discuss other matters such as discuss financial problems?** (3.3)

8s I said we are **just discussing the uniform, not hair**. I mean we are talking about the uniform and its side effect too. But not hair. It is another story. Therefore, we can **discuss the financial problem** if it results from the Uniform problem. (3.4)

10o I explained “hair cut and shoes style” as side effect of wearing uniform. In my case after limiting clothes of the school, the school also limited students’ other things. It also makes them feel uncomfortable. (3.5)

In Example 27, 10o and 8s in messages 3.1, 3.2, 3.3, and 3.4 discussed what should be included in their arguments. In message 3.5, 10o responded to further explain what she meant by side effects of wearing uniforms.

ADF also occurred in Task II when controversy emerged due to different group positions. 7s posted a message to argue that freedom should be from inside instead of from outside while the opposing group was arguing that the wearing of uniforms limited students’ freedom:

Example 28:

7s Freedom is from our inside, it is not from what I wear. Freedom when we wear causal causes that somebody judge us on our appearance rather than our inner characteristics. (9.6)
In Example 28, 7s argued about the meaning of freedom. She redefined what 4o had argued at the beginning of thread, “We have the right to wear everything. If we have to wear uniform, it is not freedom”. 7s redefined the meaning of freedom from her own group position that wearing uniforms did not limit students’ freedom because they would be free from being judged by what they wore. Here 7s’s definition regarding freedom was different from the rest of supporting group, that wearing uniforms limited students’ freedom.

In the discussion above concerning messages composed for the functions of arguments in Task II, all schemes used to code the postings in Task I remains the same except off-topic postings. The following section will compare and contrast the results of the functions of the postings between Task I and II.

Comparison of the Functions of the Postings between Task I and II

In the present study, the participants did not have prior experience participating in a threaded discussion. Their familiarity with task requests and participation in the discussion forum increased when participating the second time. In post-task interviews, the participants said that the argument in Task II was better than that in Task I. A comparison of the results of postings provides insight. Table 4.19 shows a comparison of the functions of the postings between the two tasks:

<table>
<thead>
<tr>
<th></th>
<th>QNA</th>
<th>QEA</th>
<th>QCL</th>
<th>QCV</th>
<th>AR</th>
<th>PE</th>
<th>UTC</th>
<th>UTIT</th>
<th>OT</th>
<th>VT</th>
<th>ADF</th>
<th>RFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>5.02</td>
<td>4.11</td>
<td>1.83</td>
<td>1.37</td>
<td>4.11</td>
<td>19.18</td>
<td>27.40</td>
<td>3.65</td>
<td>20.55</td>
<td>4.11</td>
<td>5.02</td>
<td>3.65</td>
</tr>
<tr>
<td>II</td>
<td>13.89</td>
<td>0.69</td>
<td>1.39</td>
<td>1.39</td>
<td>13.89</td>
<td>24.31</td>
<td>21.53</td>
<td>6.94</td>
<td>0.00</td>
<td>1.39</td>
<td>6.25</td>
<td>8.33</td>
</tr>
</tbody>
</table>

Results of comparing the functions of the posting suggest that the participants concentrated more on their arguments in Task II. The disappearance of off-task postings, for example, provides strong evidence. The following is an analysis of the comparison.
First, the use of questions without expecting answers (QNA) increases from 5.02% in Task I to 13.89% in Task II, and the use of questions expecting answers (QEA) drops from 4.11% in Task I to 0.69% in Task II. However, looking at questions used for clarification (QCL) and questions used for convincing (QCV), there is not much of a big difference between the two tasks. This finding suggests that the participants used questions to identify the flaws in prior messages rather than to expect answers to their questions. The embedding of questions in messages functions as challenges to identify the flaws in prior arguments because the participants stated their argument for their own group position immediately after their questions.

Second, the percentage of using evidence from the assigned reading to strengthen their own group position (AR) increases dramatically from 4.10% in Task I to 13.89% in task II, which shows that the participants during Task II posted more messages with evidence they identified from the assigned reading. It can be argued that the participants thus learned how to use a more “authoritative voice” (Bakhtin, 1981) to strengthen their group position.

Third, uptake for continuity of arguments (UTC) drops from 27.40% to 21.53% while uptake for incorporation and transformation (UTIT) increases from 3.65% to 6.94%. The increase of UTIT shows that the participants were able to identify the flaws in previous messages and knew better how to incorporate and transform other arguments. The argument that the participants generated became stronger in Task II than in Task I because they were able to argue from different perspectives and lift on-going arguments to a higher level. The occurrence of UTC and UTIT illustrates a give-and-take process of knowledge co-construction for expansion of argument as well as meaning co-construction for unknown words encountered during task engagement.

Fourth, the disappearance of off-topic postings (OT) and the decrease of messages for verification of tasks (VT) from 4.11% in Task I to 1.39% in Task II suggest that the participants were on the right track for arguments and also developed a better understanding of how to participate in a threaded discussion. In Task II, the participants stayed focused on the assigned topic instead of chatting about unrelated matters during participation. They also learned from their prior experience how and what to post in their
messages. The postings regarding VT in Task II occurred when the participants discussed whether hairstyle or shoes style should be included in their argument.

Fifth, replies for further explanations (RFE) increases, more than double, from 3.65% in Task I to 8.33% in Task II. As discussed previously, the participants composed RFE for two purposes: one was to further explain their argument if they thought they had not stated it clearly in a prior message, and the other was to respond to challenges from the opposing group. The increase of RFE in Task II suggests that the participants paid more attention to the argument as well as to the responses they received from the opposing group.

To conclude, the comparison of the functions of the postings between the two tasks provides insight into a process of how the participants mastered their participation in a threaded discussion forum. An analysis of the functions of the postings shows that the participants developed a variety of strategies to sustain the arguments to complete the assigned tasks. Their familiarity with task requests and participation in a threaded discussion forum allowed them to post stronger arguments in their second participation though on a different topic.

Multiple Voices in Task II

As evidence shown in Task I, two opposing concepts of social interaction, intersubjectivity and alterity, emerged in threaded discussion although the task requests in the present study was to argue about controversial issues. Intersubjectivity occurred between 1) the authors of the assigned readings and the participants; 2) the participants within a group; and 3) the participants across groups in arguments. In the meantime, alterity emerged among participants across groups in voices in conflict. The section provides examples from Task II to examine whether or not the two types of opposing interaction concepts occurred across tasks.

Intersubjectivity in Task II. Like the investigation in Task I, the following reports three circumstances regarding intersubjectivity emerging in Task II. First, when the participants identified evidence from the assigned reading and used it to support their group position, intersubjectivity occurred between the author and the participants. The author’s voice came into play when the participants adopted his/her voices in their
postings. Although the author played an authoritative role in the interaction, the participants momentarily achieved agreement with him/her when they appropriated his/her voice into theirs, as shown in Example 28:

Example 28:

5s: I think in the U. S. A. you have a lot of opportunities, and you can find a lot program that help poor students to get the uniforms. Also, they have different ways to pay the uniforms and that help the poor students to get the uniforms.

(1.8)

In this example, 5s used the evidence from the assigned reading that students could find cheap uniforms in many places in the US to counter the argument from the opposing group that wearing uniforms was a financial burden on a poor family. In his message finding places to buy cheap uniforms was a voice adapted from the author to support his group position.

Second, intersubjectivity occurred within group members implicitly and explicitly when they supported each other to argue against the opposing group. As opposed to the case of face-to-face interaction, learner interaction in a threaded discussion was based on reading and replying to messages posted in the threaded forum. The participants within a group implicitly shared understanding when they adopted arguments from their group members and used them to argue against the opposing groups. For example, 8o initiated Thread 1, *financial burden*, to argue against the mandatory uniform policy, stating that “Paying for the uniform could be a big problem for those who are poor…” in his message. His group members extended his initiated idea and elaborated on it, as shown in the following messages in Thread 1:

Example 29:

9o: I don’t use an uniform but I know that, sometime, it *cost* more of 100$ and you *must buy* different uniform for different season. Moreover if you growth quickly you need often of new uniform. (1.5)

4o: What is cheap? I think we cannot say this price is cheap even $1 because of someone’s sense of value. I think if we can buy used one, the *financial burden* remain. (1.7)
10o: only in order to go to the school, they should buy other clothes? They buy their clothes in living, and **buying uniform make to spend extra money**.

(1.23)

5o: In my opinion, although the school has this policy, if you need to buy the uniform which someone wore before, would you want? Also, if we don’t need to buy uniform, we can just wear our clothes and we don’t need to **spend extra money to buy the uniform** which we wear in school. (1.24)

In the messages above extracted from Thread 1, the participants, 9o, 4o, 10o, and 5o, revoiced 8o’s initiated idea to elaborate on the argument regarding financial burden when there was a mandatory uniform policy. The revoicing indicated a shared perspective among these participants implicitly.

Intersubjectivity also occurred explicitly among the participants when they directly replied to each other. In Thread 5, *The benefits*, the supporting group argued about the benefits of the mandatory policy from the viewpoints concerning money, discipline, and relationship while the opposing group defended that wearing uniforms dampened students’ creativity. The participants 3s and 4s replied to each other’s messages to clarify what they should argue against the opposing group. Example 30 illustrates the interaction:

**Example 30:**

3s: student can express out of school, why we need to express by the uniform? They have other ways. for example they do something well, that also express.

(5.6)

4s: No, uniform is also just a only way to express. That is not all. The BENEFITS are difference. We can learn a lot from wearing it. For instance, we have to try to make a relationship by using our personality as you said. That is enhanced by uni, because we cant use fashion as a tool of making relationship. But from that we can have the skill to make good relationship without fashion. That is now useful skill for me. Maybe for you, too. (5.7)

3s: Yes, I agree with you, but you didn’t understand well. The opposite group said they can’t express because the wear the uniform. So, I mean we can express without uniform. (5.8)
In Example 30, 3s and 4s replied to each other to try to reach a certain level of consensus regarding their arguments against the opposing group.

Third, intersubjectivity also occurred when the participants in different groups partially agreed with the argument during the joint activity. The following example shows a partial agreement between participants in different groups during arguments: Example 31:

7s: I do not think that it is from the mandatory uniform policy. When we wear the casual, same thing happen in our classroom. If somebody wear always same clothes because he/she is poor or somebody do wear poorly, that kind of students are always outsider in their school. In my opinion, when we wear the school uniform, we can protect more student from a biased view due to their appearance. (11.6).

5o: I agree with you but if you can teach them to respect other poor student without wearing uniform. I think it’s a good way to teach student don’t compare people with the clothes. (11.7)

In this example, as seen in “I agree with you”, 5o partially agreed with what 7s said in her message that poor students would be discriminated against by what they wore if there was no mandatory uniform.

The four examples discussed above provide evidence regarding situations in which intersubjectivity occurred in Task II during task engagement. The next section will focus on voices in conflict among the participants in the joint activity due to the nature of the assigned task.

Alterity in Task II. Voices in conflict emerging during task engagement became multivocality when the participants argued for their individual group position. They did not interact to reach a consensus but struggled to defend their group position. Table 4.20 shows evidence of incorporation and transformation between groups both within and across threads in Task II due to voices in conflict of the assigned task:
Table 4.20
Evidence of Incorporation and Transformation Between Groups Both Within and Across Threads in Task II

<table>
<thead>
<tr>
<th>Contents of Arguments</th>
<th>Thread</th>
<th>Partic</th>
<th>Voices in conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial burden</td>
<td>1, 3, 4, 5, 11</td>
<td>8o</td>
<td>Wearing uniforms is an additional cost to the poor family.</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>8s</td>
<td>Wearing freely costs even more.</td>
</tr>
<tr>
<td>Monotonous style</td>
<td>1</td>
<td>8o</td>
<td>Students wearing uniform cannot show their styles.</td>
</tr>
<tr>
<td></td>
<td>1, 5</td>
<td>4s</td>
<td>Students should concentrate on their study and find other ways to show themselves, such as good personalities.</td>
</tr>
<tr>
<td>Personality</td>
<td>9</td>
<td>5o</td>
<td>Choosing Clothes is a basic way to show someone’s personality.</td>
</tr>
<tr>
<td></td>
<td>1, 2, 5, 9</td>
<td>4s</td>
<td>Students should have good personality to build up their relationship with friends, not by fashion.</td>
</tr>
<tr>
<td>Freedom</td>
<td>9</td>
<td>4o</td>
<td>Students lose their freedom because of wearing uniforms.</td>
</tr>
<tr>
<td></td>
<td>2, 9</td>
<td>7s</td>
<td>Freedom comes from inside.</td>
</tr>
<tr>
<td>Time</td>
<td>3, 9</td>
<td>3s</td>
<td>Students waste their time on choosing clothes.</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>4o</td>
<td>Choosing what to wear does not waste time because the time is used to learn creativity.</td>
</tr>
<tr>
<td>Wearing uniform</td>
<td>2, 9</td>
<td>5s</td>
<td>Wearing uniforms is like a responsibility to students. People wearing professional clothes at work, such as lawyers.</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>4o</td>
<td>Wearing uniforms is like in the army.</td>
</tr>
<tr>
<td>Education</td>
<td>11</td>
<td>5o</td>
<td>Schools should teach students to respect other students and learn creativity regarding what to wear.</td>
</tr>
<tr>
<td></td>
<td>2, 6</td>
<td>4s</td>
<td>School is a place for study.</td>
</tr>
<tr>
<td>Discipline</td>
<td>8, 10, 11</td>
<td>8s</td>
<td>Students need regulations, and wearing uniforms is a good way for student discipline as well as campus safety.</td>
</tr>
<tr>
<td></td>
<td>8, 10, 11</td>
<td>3o</td>
<td>Wearing uniform does not mean that unwanted behavior will be reduced.</td>
</tr>
</tbody>
</table>

Table 4.20 synthesizes voices in conflict from both sides in Task II. The same issue was argued and resulted in different meanings. Voices in conflict due to the assigned tasks brought about meaning co-construction between groups. Meaning of freedom, for example, was shifted from freedom of being able to choose clothes to freedom from not being judged by appearance regarding whether there was a mandatory policy. As Table 4.20 shown, incorporation and transformation of argumentative ideas engendered arguments within a thread as well as across threads, which is consistent with
the results in Task I. The participants also co-constructed meanings of unknown words regarding ‘monotonous’ and ‘burden’ during task engagement.

Conclusion of Research Question # 1

Participating in threaded discussion to argue about controversial topics allowed ESL learners opportunities to collaboratively assist one another to complete joint activities. In the foregoing discussion of the results of the data analysis, which sought to explore the social interaction emerging in arguments in a threaded discussion forum, the researcher analyzed the roles of E/N emerging during task engagement; the functions of the postings to sustain the flow of arguments; and multiple voices between the participants within and across groups.

The roles of E/N were examined in terms of three aspects: 1) initiators of threads, 2) providers of argumentative ideas in the middle of threads to shift direction of arguments, and 3) more knowledgeable peers regarding word knowledge needed for arguments. The results of data analysis suggest that the participants played a fluid role to assist one another to complete joint activities. They also suggest that the roles of E/N were fluid and each participant played a significant role contributing to the completion of assigned tasks.

With regard to the functions of the postings, the researcher examined how messages were composed for arguments. Results of the analysis suggest that the participants employed various strategies to maintain the flow of interaction, including 1) various purposes for the use of questions, especially using questions for challenging rather than expecting answers to their questions; 2) using evidence from the assigned readings or personal experience for elaboration and strength of arguments; 3) up-taking arguments from prior messages for meaning co-construction; 4) verifying task requests for task completion during participation; 5) arguing definitions of main controversies deriving from assigned reading to individual group position; and 6) replying to prior messages for further explanation of unclear arguments in posted messages, as well as taking challenges from the opposing group. Comparing results of the functions of the postings reveals that the participants posted stronger arguments in task II because of their
familiarity with participation in the threaded discussion and better understanding of task instructions.

Finally an exploration of multiple voices emerging among the participants both within and across groups reveals that two opposing interactional concepts, intersubjectivity and alterity, co-existed in the social interaction during the process of task completion. The participants reached certain levels of consensus in circumstances, when they 1) appropriated the authors’ voices into theirs to support their group positions; 2) revoiced initiated argumentative ideas from their group members both implicitly and explicitly; and 3) achieved partial agreements with the participants from the opposing group in arguments. However, due to the task instructions to argue about controversial issues, the interaction was mainly voices in conflict among the participants, serving as a meaning generator. The participants thus co-constructed, reformulated, and transformed meaning regarding the assigned topics during the give-and-take process. Evidence of knowledge building was shown in the expansion of arguments as well as meaning co-construction regarding words identified as unknown before participation.

The next section explores the results of the data analysis for the second research question. The question concerned the word appropriation strategies that the participants employed to deal with unknown words encountered during task engagement to maintain the flow of interaction.

**Word Appropriation Strategies**

As discussed in Chapter 2, word meaning is crucial to communication. In a threaded discussion, the participants communicate with one another via postings without assistance of paralinguistics, such as facial expressions, gestures, and intonation contours. In text-based communication, the participants used words to formulate their arguments. As Vygotsky (1986) points out, “word meaning is an elementary cell…the meaning of every word is a generalization or a concept” (p. 212). The encountering of words identified as unknown before participation is thus an aspect that needs further investigation, especially when the target language was used as a mediational tool for the
adult ESL learners to formulate their thoughts and construct meaning to complete assigned tasks.

In the discussion of data analysis responding to Research Question # 1.3, the researcher had already provided evidence of meaning co-construction regarding unknown words encountered during task engagement. Some participants were able to infer words’ meanings by reading postings in arguments. Some, however, were able to use unknown words in their postings after figuring out their meanings. According to Bakhtin (1981), word meanings are appropriated in social contexts when used to interact with interlocutors rather than their neutral meanings consulted in a dictionary. Research Question # 2 addresses the word appropriation strategies that the participants employed when they encountered unknown words during task engagement and needed to maintain the flow of interaction.

According to Tarone (1977), the taxonomy emerging from interactional approach to communication strategies includes five main categories: avoidance, paraphrase, conscious transfer, appeal for assistance, and mime (see in Smith, 2003). However, due to the asynchronous nature of interaction in a threaded forum, communication strategies regarding appeal for assistance and mime were not found in the present study. In the present study, when encountering unknown words in communication, the participants chose 1) to infer meanings of unknown words in prior postings to use them to communicate meaning x (conscious copy); 2) to attempt alternate means to communicate meaning x (paraphrase); 3) to use the opposite meaning of unknown words to respond to prior messages (task participation strategy); and 4) not to attempt to communicate meaning x (avoidance).

In Chapter 3, the researcher has already stated the rationale for choosing words identified as unknown for the investigation of word appropriation strategies (WASs). The words included coma, euthanasia, revive, and vegetative in Task I, and burden, monotonous, discipline, and mandatory in Task II.

The report of results of the data analysis for Research Question # 2 combines findings in two tasks because the same word appropriation strategies were used in both tasks. Table 4.19 illustrates individual participants’ WASs employed to infer words’ meanings as well as their strategies to respond to or not to respond to messages after
trying to infer words’ meanings when encountering unknown words embedded in postings or used to label threads for arguments. In Table 4.19, ✓ indicates that the participants in their VKS stated that they knew the word’s meanings before their participation as well as participants’ indication that they learned the meanings of words in post-task VKS and during the interviews. ‘?’ represents that the participants came to a partial understanding of unknown words resulting from online participation in post-task interviews.

The task in a threaded discussion involves reading and writing. Because of this, illustrations of WASs employed for each word in Table 4.21 consist of two rows for the process of word appropriation: The upper row illustrates the WASs regarding getting words’ meanings, and the lower one illustrates WASs employed for responses, either responding or avoiding responding. Before discussing evidence regarding WASs, a list of abbreviations for each code are presented as follows:

1. AG: arguments in postings
2. L1: transfer from L1
3. PF: prefixes, word roots
4. RD: assigned reading
5. WA: word association
6. DC: dictionary consulting
7. AV: avoidance
8. CC: conscious copy
9. PP: paraphrase
10. TS: task engagement strategy

An external observer was asked to code WASs. Inter-observer reliability was computed at 100%.

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6 In the list of abbreviations, 1-6 are WASs used for getting meanings of unknown words, and 7-10 are WASs used for responses.
As shown in Table 4.21, the participants developed various WASs to come to a better understanding of unknown words as well as to choose to respond to or not to respond to messages or threads containing unknown words. With regard to WASs for
coming to a better understanding of unknown words, some participants employed more than one WAS; some, however, used only one. As for responses, some were able to use them to reply to prior messages (CC); some, however, paraphrased those unknown words (PP) or avoided talking about the concept represented by unknown words or simply chose not to respond to messages or threads containing unknown words (AV). The following are three examples chosen from Thread financial burden in Task II to illustrate WASs that the participants employed to deal with unknown words when they had an immediate need to respond to messages or to participate in threads labeled with unknown words.

First, 5o did not know the word ‘burden’ but was able to respond to a prior message in this thread. During the interview, he said, “I don’t know the word ‘burden’ but I know ‘financial’. It is something about money. I read the messages in this thread and then replied”. With an immediate need to respond to messages, 5o paraphrased the concept of financial burden in his reply by saying, “If there is no uniform policy, we can just wear our clothes and we don’t need to spend extra money.” He used “spend extra money” to express the concept of “financial burden” to maintain the flow of interaction. In this case, 5o first used postings in arguments (AG) and a word association strategy (WA) to come to a partial understanding of the meaning of ‘financial burden’ and then used a paraphrase strategy (PP) when he had an immediate need to express the concept in his reply. By using various WASs, 5o was able to participate in this thread labeled with an unknown word.

Second, 3s knew neither ‘financial’ nor ‘burden’ but posted messages in this thread. Nonetheless, during the post-task interview, the researcher asked her how she was able to respond to messages in the thread containing unknown words if she did not know either one of them. She said, “I don’t understand this (financial burden), but people talked about money”. The researcher showed her the postings in this thread. She underlined a sentence in the initiated message posted by 8o: “Paying for the uniform could be a big problem for those who are poor.” She further explained, “I don’t know the word but I know we were arguing. So I posted the opposite. When the opposite group said ‘expensive’, I said something ‘cheap’”. In her replies, 3s used examples from the assigned reading and personal experience to argue about where to find cheap uniforms without directly mentioning financial burden in any messages she posted to reply. In this
case, 3s employed AG and a task engagement strategy (TS) to help her build up a concept of what this thread was about. She then used an avoidance strategy (AV) to respond to messages without mentioning financial burden in her replies.

Third, 4o did not know ‘burden’ but was able to consciously copy this word in his reply. In the interview, 4o said, “I don’t know burden but I know financial. It is about money. I just concentrated on financial, so I replied”. He used a conscious copy strategy (CC) for the immediate need to express the concept in his reply. In the message he posted, he stated, “…I think even if we can buy used one, the financial burden remain.” In the post-task interview, 4o said that he still did not know the exact meaning of burden but ‘financial’ helped him reply to messages. In this case, with a word association strategy, 4o made an inference of financial burden and was able to consciously copy the unknown word from prior postings (8s and 8o) in his reply when needed to express the concept.

These three examples discussed above illustrate the process of how the participants employed various WASs both for getting a better understanding of unknown words and for composing replies to express the concept of the unknown word ‘burden’ in their postings. In the next section, more evidence found in Task I and II will be discussed to illustrate each WAS used to deal with the encountering of unknown words during task engagement.

**WASs Employed for Inferring Meanings**

Before entering the discussion regarding WASs that the participants employed for getting meanings of unknown words, Table 4.22 shows the distribution of WASs used for meaning inference regarding unknown words in each task. Both in Task I and II, inferring meanings from the postings in arguments was the WAS that the participants used the most frequently to deal with unknown words before they were able to respond to prior messages. The use of L1 was the second most frequently used strategy because of the participants L1 backgrounds, including Italian, Japanese, Portuguese, and Spanish. In Task II, WA increased, mainly because of an association of the known word ‘financial’ with the unknown word ‘burden’. The knowledge of prefixes was employed in Task II.
because the targeted word ‘monotonous’ was chosen for investigation. Although dictionaries were available for consulting if needed, not many participants used it as a WAS for a better understanding of unknown words.

Table 4.22
WASs Used for Getting Meanings of Unknown Words in Each Task

<table>
<thead>
<tr>
<th>WAS</th>
<th>Task</th>
<th>Task I</th>
<th>Percentage</th>
<th>Task II</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Arguments</td>
<td>11</td>
<td>45.83%</td>
<td></td>
<td>16</td>
<td>38.10%</td>
</tr>
<tr>
<td>2. L1 transfer</td>
<td>7</td>
<td>29.17%</td>
<td></td>
<td>10</td>
<td>23.81%</td>
</tr>
<tr>
<td>3. Prefixes</td>
<td>0</td>
<td>0.00%</td>
<td></td>
<td>2</td>
<td>4.76%</td>
</tr>
<tr>
<td>4. Reading</td>
<td>2</td>
<td>8.33%</td>
<td></td>
<td>1</td>
<td>2.38%</td>
</tr>
<tr>
<td>5. Word association</td>
<td>2</td>
<td>8.33%</td>
<td></td>
<td>10</td>
<td>23.81%</td>
</tr>
<tr>
<td>6. Dictionary consulting</td>
<td>2</td>
<td>8.33%</td>
<td></td>
<td>3</td>
<td>7.14%</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100%</td>
<td></td>
<td>42</td>
<td>100%</td>
</tr>
</tbody>
</table>

Arguments in Postings

According to the nature of a threaded forum, a thread can link messages with the same theme together and thus serves as a collaborative dialogue among the participants for meaning co-construction, especially when a thread is labeled with unknown words. As discussed in Research Question 1.3, threaded discussion regarding controversial topics allowed participants opportunities to argue the same theme from different perspectives, through which meanings were co-constructed and reformulated. A thread labeled with unknown words thus led the participants to a better understanding of unknown words when they read messages to respond to prior messages.

In the post-task interview, many participants said that they came to understand words’ meanings by reading arguments from both sides. Examples have been discussed in the discussion of multiple voices for meaning construction in RQ # 1.3.
L1 Transfer

Some participants inferred word meanings by means of their L1 because some unknown words were very similar to the ones in their first languages. In Task I, 3o, a Portuguese speaker, and 9o, an Italian speaker, transferred the targeted words in their L1s to the ones in English. In Task II, ‘discipline’, ‘mandatory, and ‘monotonous’ were transferred by Italian, Japanese, Portuguese, and Spanish speakers to the words in English. These participants benefited from their L1 in inferring meanings while other participants struggled to come to an understanding of those words during task engagement.

Prefixes and Word Roots

Some participants combined their knowledge of prefixes and word roots with the contexts where unknown words were embedded to infer word meanings. In post-task interviews, 5s and 6o said that they knew the word ‘monotonous’ because they knew that the prefix ‘mono’ means ‘one’, and that they also had similar words in their languages.

Except for the targeted words, some participants also reported their use of WASs in other sources of data. In Task I, for example, 4o appropriated the word ‘transplant’ from 7s’s posting and used it to reply to 7s. 7s noted in her pre-task VKS that she inferred the meaning of the word ‘prognosis’ by the roots including ‘pro-’ and ‘-gnosis’ when she encountered it in the assigned article.

Inference from the Assigned Reading

From the article used for Task I, 6o and 8o noted that they inferred the meaning of ‘euthanasia’ from the assigned reading. They both highlighted ‘euthanasia’ as unknown with a marker pen. 8o marked an arrow from the word ‘euthanasia’ to the phrase ‘the painless death of persons suffering from a disease’ in the sentence in the assigned reading describing euthanasia, which was “This debate over euthanasia, the painless death of persons suffering from a disease, involves conflicting ethics...” In addition, both 6o and 8o wrote down the phrase in their pre-task VKS to indicate that they inferred its meaning from the assigned reading.
Word Association

Some participants associated known words with unknown words for meaning inference. 4o, for example, guessed ‘coma’ because he knew ‘vegetative’, which was argued by 8s in her message, “…They are in coma. They cannot think and speak. They seem just vegetable….” in Task I. 4o employed both AG and WA for inference of the unknown word ‘coma’. 8o also guessed the meaning of ‘coma’ by associating it with ‘brain cells’ in 7s’ postings when she argued that people could not remake brain cells and transplant them into someone in a coma.

Word association was used the most often in Task II, especially when most participants associated ‘financial’ with ‘burden’. In the post-task interviews, the participants said that they did not know the word ‘burden’ and guessed its meaning from the word ‘financial’. They assumed that financial burden meant ‘money problem’ or ‘money limit’. In addition, the participants also reported that they benefited from the phrases in arguments, such as ‘spend extra money’, ‘paying additional cost’, and ‘have to buy’ to guess the meaning.

Word association was employed in the following two cases in Task II. 6o reported that he guessed the meaning of ‘mandatory’ when the participants were arguing ‘regulation’. He said, “It is similar to the word ‘required’”. 10o employed both word association and task engagement strategies to guessed the meaning of mandatory. She associated the opposite word ‘freedom’ to guess the meaning of mandatory. She said, “Mandatory, mandatory. It means something required. You have to. It is forced”. She further explained, “I guessed it from the opposite meaning”, which she claimed was ‘freedom’ in the context of discussion. In the cases discussed above, the participants employed WA to infer meanings of unknown words. Their association of unknown words with the words they had already known provided them contextual assistance to guess meanings and then enabled them to participate in threads labeled with unknown words.

Dictionary Consulting

In the present study, the participants were allowed to consult a dictionary to define unknown words but were requested to make notes next to the words on the
assigned text if they did. Some participants preferred to look up word meanings before participation, encountered them being used in messages, and used them in their replies. Io, for example, looked up the word ‘coma’ before her participation in the threaded discussion and used it in her response during task engagement. In the post-task interview, she said that she preferred to be sure of words’ meanings if she had time. Some, however, preferred to guess a word’s meaning and then looked it up after encountering it several times during task engagement to make sure whether their inference was correct. 9s, for example, encountered the word ‘mandatory’ in messages a few times before she consulted its meaning in the dictionary. Some preferred to check a word’s meaning after the participation was complete. 2o, for example, looked up the word ‘coma’ after participation. In the post-task interview, she said, “I looked up the word in the dictionary to make sure its meaning after participation. I think I will never forget this word”. In these cases, dictionary consulting played a role when the participants appropriated unknown words in their task engagements. However, most participants did not employ this strategy during task engagement.

As discussed previously, participation in the threaded discussion involved reading and writing. After struggling with meanings of unknown words the participants faced, the other challenge whether they chose to respond or not to. The next section discusses the WASs employed for responses.

**WASs Employed for Composing Responses**

Table 4.23 shows the distribution of WASs employed for composing responses in each task. Avoidance (AV) was employed the most often in each task, 16 times in Task I and 13 times in Task II. The employment of AV, however, decreased in Task II, which seemed to be related to the increase of employment of paraphrase (PP), used 9.25% in Task I and 30.77% in Task II. Task engagement strategy (TS) was a new WAS in Task II, which the participants used to deal with unknown words or concepts they needed to express during task engagement. An analysis of the postings and the interview data provides answers to the changes of employment of WASs in the two tasks.
Table 4.23
WASs Used for Responses Regarding Unknown Words in Each Task

<table>
<thead>
<tr>
<th>WAS</th>
<th>Task I</th>
<th>Percentage</th>
<th>Task II</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Avoidance</td>
<td>16</td>
<td>76.19%</td>
<td>13</td>
<td>50.00%</td>
</tr>
<tr>
<td>2. Conscious copy</td>
<td>3</td>
<td>14.29%</td>
<td>2</td>
<td>7.69%</td>
</tr>
<tr>
<td>3. Paraphrase</td>
<td>2</td>
<td>9.52%</td>
<td>8</td>
<td>30.77%</td>
</tr>
<tr>
<td>4. Task engagement strategy</td>
<td>0</td>
<td>0.00%</td>
<td>3</td>
<td>11.54%</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>100%</td>
<td>26</td>
<td>100%</td>
</tr>
</tbody>
</table>

Avoidance

There were two types of AV employed during task engagement. One was to avoid participating in the threads containing unknown words, and the other was to post something that was not related to the concepts of unknown words. The former occurred more in Task I while the latter occurred more in Task II.

In Task I, the participants tended not to post messages within the threads labeled with unknown words. If they did post messages, they said things that were not related to the discussion topic labeling the threads. However, in Task II the participants tried to post messages in the Threads financial burden and monotonous style even though they were not sure of the meanings of these two words.

Unknown words including ‘coma’, ‘revive’, and ‘vegetative’ in Task I and ‘burden’ and ‘monotonous’ in Task II were used to label threads in each task. The following are two examples from each task. 3s, for example, did not know the words ‘coma’, ‘revive’ and ‘vegetative’. She completely avoided posting messages in Threads vegetative state and there is no revive from coma in Task I. In Task II, without knowing the word ‘burden’, 3o, for example, posted a message in the thread labeled financial burden, saying, ‘Hey uniform is not a priority in this society. Many family don’t have what to eat and there are a lot of families without a house to live after the last hurricanes’. In this reply, instead of emphasizing a financial burden that mandatory
policy caused to poor families, 3o used the case of hurricanes to avoid getting into the discussion of financial burden.

Avoidance was used with the most frequency of all strategies in both tasks. However, in Task II the employment of AV dropped from 76.19% to 50.00%. The data in Table 4.20 also shows that in Task II, instead of ignoring unknown words, the participants tried to use more strategies to deal with unknown words encountered during task engagement, especially PP. This will be further discussed later.

Conscious Copy

During participation in the threaded discussion, some participants were able to use the exact word, which s/he identified as unknown in their responses. During the post-task interviews, the participants were asked whether they had already inferred the word’s meaning when they used it in their replies. The participants, such as 4o and 5o in Task I, said that they knew the unknown word’s meaning when they used it in their replies whereas the participants in Task II, such as 4o and 10o, said that they did not know the exact meaning but rather a partial meaning of the word when using it in their postings. The following are examples of conscious copy from three participants.

4o, for example, was able to use ‘coma’ in his reply in Task I and ‘burden’ in Task II. During the interview, he said that he knew the meaning of coma when using it in Task I but did not know the exact meaning of the word ‘burden’ when using it in his reply in Task II. He said, “Burden. I don’t know the exact meaning, but I know ‘financial’. It’s something about money. So I guess. I don’t know its exact meaning. I guessed it’s money problem, so I used it”. In 4o’s case, he consciously copied the unknown words ‘coma’ and ‘burden’ when he used them in his replies. 5o, for example, was able to use ‘revive’ three times in his postings in Task I. During the post-task interview, he said, “I know its meaning when I used it in my postings. I guessed it in people’s postings.” Both 4o and 5o said that they saw coma many times in their participation in Task I in postings, which helped them guess its meaning. As discussed previously, the frequency of embedding of unknown words in postings in Task I was much higher than in Task II. Also in the analysis of the functions of the postings, the participants posted messages to argue about the definitions of certain words, particularly
‘coma’, ‘revive’ and ‘vegetative’. The frequency of embedding in messages and the context where the words were embedded together seem to provide insight into how the participants came to a better understanding of unknown words in Task I than those in Task II. This finding was verified in the interview data.

10o also used unknown word ‘burden’ in her reply in Thread uncomfortable in Task II. In the interview, she said, “I don’t know the exact meaning (burden). I know financial. People talked about spending money and additional cost. So I guess it is similar to bankruptcy because I know financial.” In this case, although did not know the exact meaning of burden, 10o was able to use this word in her reply.

Instead of simply copying unknown words without knowing their meanings, the three cases discussed above provide evidence that the participants either came to an understanding of the unknown words or partially understood them when they used them in their replies.

**Paraphrase**

Paraphrase occurred more frequently in Task II than in Task I because the participants were familiar with the assigned topic for Task II, the mandatory uniform policy. In the post-task interviews, when the researcher asked the participants to compare these two assigned tasks, they responded that they thought the second one was easier because they had personal experience and were able to use their own words to express the concepts of unknown words in their replies.

In Task I, 4s and 5o used ‘recover’ to replace ‘revive’ before they were able to use the targeted word. 4s never used ‘revive’. 5o, however, used ‘revive’ three times after apparently having learned its meaning. In task II, for example, without knowing the meaning of ‘burden’, 5o and 10o used the phrase ‘spend extra money’ to paraphrase the concept of ‘financial burden’ in their replies after reading 8o’s elaboration regarding the concept of ‘financial burden’ with phrases ‘have to pay additional cost’, ‘paying an additional cost’, and ‘has to buy’ to express that the wearing of uniforms caused a hardship for poor families. During the interviews, most participants said that they ignored unknown words used to label the thread, and by reading the messages they were able to participate in threads containing unknown words. Similar cases occurred when
the participants posted messages in the Thread entitled *monotonous style*. 2s said that she was not sure of what monotonous meant, but by reading messages from 8s saying “lack chance to express their own style” and 8s “find you’re your style” she was able to express the concept of monotonous style with the phrase, “look the same” in her reply.

Comparing with words identified as unknown in Task II that the participants were able to paraphrase with their own words, unknown words in Task I were specific words regarding assisted suicide, such as ‘coma’, ‘revive’, ‘euthanasia’, and ‘vegetative’. The participants who knew those words used these words directly in their postings. However, in Task II the participants could use their own words to express the concepts of ‘financial burden’, ‘discipline’, and ‘monotonous’ without being limited by their vocabulary knowledge to maintain the flow of arguments. The evidence discussed above reveals the struggle of how the participants dealt with the words they were not familiar with and had to use to communicate with one another during their participation in threaded discussion.

**Task Engagement Strategy**

During the preliminary data analysis, the researcher found that some participants, who indicated that they did not know the words used by others to label threads, participated in them nonetheless. This mainly occurred in Threads *financial burden* and *monotonous style* in Task II. Therefore, during the post-task interviews, the researcher asked the participants that if they did not know the words’ meanings used to label threads, how were they able to respond to messages in those threads? The participants said that they knew that they were arguing with the opposing group, so they said some things opposite to the opposing group. The following are two examples regarding participation in Thread *financial burden* in Task II.

For instance, during the interview, 3s said, “I don’t know ‘burden’, I don’t know its meaning. But I know I am arguing with people. If the opposite group says something is expensive, I will say something is cheap.” In her response to 8s in Thread *financial burden*, she posted a message, “but in my experience, when I was middle school student, I could by the uniform less than 10 dollar, isn’t that cheap?” 5s also reported that he used the same strategy to respond to messages in Thread *financial burden*. He said, “I don’t know the word ‘burden’. I said something opposite”. In his reply to 4s, he posted, “I
think that in the U.S.A. you have a lot of opportunities, and you can find a lot of program that help poor students to get the uniform. Also, they have different ways to pay the uniform and that help the poor students to get the uniforms”. In this case, 5s employed TS to identify evidence from the assigned reading and used it to argue that the students could find cheap uniforms somewhere to solve the problem of their financial burden.

In the cases discussed above, neither 3s nor 5s knew the word ‘burden’ but were nonetheless able to post appropriate messages to maintain the flow of argument in a thread labeled with an unknown word. The employment of task engagement strategy to maintain the flow of interaction when encountering unknown words during task engagement particularly occurred in Task II when the participants had become familiar with the task requests as well as the assigned topic, with which they had had previous experience.

Conclusion of RQ # 2

Word meaning plays a crucial role in communication. RQ # 2 investigated the participants’ word appropriation strategies that adult ESL learners employed to maintain the flow of interaction when they encountered unknown words. Data analysis reveals that the participants combined various word appropriation strategies when they tried to come to an understanding of unknown words as well as composed their replies with the needs to express the concepts of those unknown words. They flexibly employed different WASs to accomplish their assigned tasks, depending upon their individual’s L1 backgrounds, personal preferences as well as the embedding of unknown words in contexts and their familiarity with the assigned topics.

Conclusion

Data analysis in Chapter Four sought to identify the patterns of learner interaction emerging in a threaded discussion form when assigned to argue about controversial topics. Grounded in sociocultural theory, the analysis regarding Research Question # 1 focused on three aspects, including the roles of E/N, the functions of the postings to
maintain the flow of interaction, and multiple voices emerging in the give-and-take process of reading and posting messages in the threaded discussion forum. Evidence shows that the participants were able to use the postings as “thinking devices” to expand arguments as well as meaning co-construction regarding unknown words encountered during task engagement.

The analysis of word appropriation strategies found evidence that the participants developed various WASs to deal with unknown words encountered during task engagement, either to come to a better understanding of unknown words or to compose responses with a need to express the concepts of unknown words in their replies to maintain the flow of arguments. Results regarding WASs suggests that most participants employed inferential strategies to come a better understanding of unknown words and various strategy to dealing with unknown words in their responses, depending upon the assigned topics. A discussion of the results, along with implications and recommendations, follows in Chapter Five.
CHAPTER FIVE
DISCUSSION OF THE FINDINGS

Introduction

Living in the twenty first century, technology shortens the distance among people, bringing about an impact on human’s lives as well as their way of learning. As discussed in Chapter 1, distance learning has grown drastically in the past decade, particularly at institutions of higher learning in the United States. However, how advanced adult ESL learners interact with peers in an online environment to complete tasks is still uninvestigated.

The purpose of the present study was to explore the emergence of social interaction among adult ESL learners when assigned to argue about controversial issues in a threaded discussion forum as well as their strategies to appropriate unknown words encountered during task engagement to maintain the flow of interaction. The completion of tasks in online discussion lies in social interaction emerging in activity. According to Wertsch (2000), there are two basic meanings of “social”: One is “one or more than one individual participates in it” (p.18), and the other is “a broad sociocultural context in which it occurs…any episode of human interaction must occur in specific cultural, historical, and institutional context, and this influences how such action is carried out” (p. 18). The present study was conducted in a threaded forum, in which many threads were developing at the same time, accommodating more than one voice in a time-delayed fashion. The exploration of learners’ interaction thus included both definitions regarding ‘social’ defined by Wertsch. The exploration of the interanimation of voices emerging in a threaded forum illustrates the participants’ active roles in collaboration with one another within and across groups to accomplish assigned tasks.

In addition to the investigation of learner interaction emerging in the threaded forum, the present study also investigated word appropriation strategies employed by the participants to deal with unknown words encountered during task engagement since the
target language, English, was used as a mediational tool during the semiotic process of task completion.

The data analysis reported in Chapter Four of this study discussed the results of inquiry into the research questions. The present chapter discusses the findings of each of the research questions and revisits the literature review in Chapter Two to explore their relation. This chapter explores the implications of the findings for the field of ESL instruction. This chapter ends with the recommendations for future research.

Social Interaction Emerging in a Threaded Discussion Forum

The first research question investigated patterns of learner interaction among low-advanced and advanced level ESL learners when arguing about controversial issues deriving from the assigned reading in a threaded discussion forum. The rationale for exploring learner interaction was grounded in sociocultural theory (SCT) (Vygotsky 1978, 1986; 1997), with special focus on Wertsch’s (1998; 2000) notion of interaction in social space and Bakhtin’s (1979; 1981; 1986) notion of multivocality to analyze how multiple voices in conflict emerging in a threaded discussion expanded arguments as well as meaning co-construction regarding unknown words encountered during the process of task completion. Three aspects guided the analysis of patterns of learner interaction, including 1) roles of E/N; 2) the functions of the postings to maintain the flow of interaction; and 3) multiple voices emerging within and across groups during task completion.

Roles of Expert/Novice

The analysis of the data in Chapter Four indicates that the participants were able to assist one another to accomplish the assigned tasks, either in initiating arguments as well as providing vocabulary needed for task completion. As seen in the studies of Donato (1994) and De Guerrero & Villamil (2000), peer interaction is often mutual with assistance from one another to collaboratively accomplish joint tasks. As the findings discussed in Chapter Four demonstrate, the learners’ roles emerging during task
engagement were fluid rather than static. Each participant made his/her unique
contribution to the process of task completion, either initiating arguments or scaffolding
(Wood, Bruner, & Ross, 1976) for one another the words needed for composing
responses.

With regard to the initiation of arguments shown in Table 4.2 for Task I as well as in
Table 4.12 for Task II, different participants were able to initiate different threads to
set a theme of arguments within each thread. The thread initiators were able to identify
evidence from the assigned readings and use it to support their own group position. For
example, the supporting group identified the right to die in Task I and the benefit in Task
II to initiate threads while the opposing group used evidence from the assigned reading
chance to revive in Task I and financial burden in Task II to initiate threads for their
group position. The initiators played a leading role to set the theme in each thread for the
remaining participants to argue about the controversy existing in the assigned topics.

In the meantime, some participants, although they did not initiate any threads,
were able to transform ongoing arguments in the middle of threads to lift arguments to a
higher level. These participants thus transformed their roles from novices into experts
inasmuch as their ideas enlarged the scope of arguments and engendered more
discussions. For example, 5o and 6o did not initiate any threads in Task I. 5o, however,
shifted an ongoing argument about a patient’s right to die to his/her right to live in
Thread 1. 6o did not initiate any threads, either. Nevertheless he initiated an
argumentative idea regarding the legality of the practice of euthanasia because as he
argued in Thread 2, killing animals did not break the law but killing people did. Similar
cases occurred in Task II. 9s did not initiate any threads, but she proposed the
argumentative idea that students would waste their time choosing what to wear in the
morning if there were no mandatory school uniform policy. This argumentative idea
proposed by 9s in the middle of thread led to an argument that choosing what wear did
not waste time because the time was spent in learning creativity. 5o again did not initiate
any threads in Task II either. He, however, initiated the idea that the poor materials of
school uniforms made the wearing of them very uncomfortable.

The initiations of threads as well as shifts of ongoing arguments to a new
direction by different participants in two tasks provided evidence that all participants
were able to make their unique contributions to task completion. They thus played a dual role as both an expert as well as a novice at the same time, but depending upon different circumstances, either an initiator of a thread or a provider of argumentative ideas in the middle of a thread.

With regard to vocabulary knowledge needed to compose responses for arguments, as presented in Table 4.3 and 4.13 in Chapter Four, different participants had different degrees of word knowledge from the assigned readings in both tasks. Different participants embedded different words (seen in Table 4.4 and 4.13) identified by other participants as unknown in their postings to provide novices contextual assistance so that they were able to develop a better understanding of those words before composing messages to maintain the flow of interaction. Thus almost all participants played dual roles as experts as well as novices with regard to word knowledge needed for task completion, depending upon the word chosen for investigation. Their roles were fluid because of the dynamics of the threaded discussion.

The postings from the more capable peers served as ‘thinking devices’ (Harasim, 1990; Lotman, 1998; van Lier, 2000; Warschauer, 1997; Wells, 2000) to scaffold novices’ participation to deal with unknown words encountered in the threaded discussion. Some participants were able to transform their roles from a novice to an expert user of a specific word as the task advanced. For example, in Task I, 4o and 5o, starting as a novice regarding ‘coma’ and ‘revive’ respectively, were able to make sense of each unknown word embedded in postings, and then ended up as expert users of each word in their postings. Similar cases occurred in Task II, where 4o and 10o were able to use the unknown word ‘burden’ in their responses after inferring its meaning in prior messages in different threads.

The findings regarding the roles of E/N in vocabulary knowledge support Dicamilla & Anton’s (1997) and Duff’s (2000) studies that repetition can serve as a means of scaffolding because the encountering of unknown words during task engagement seems to suggest the relation between the frequency of unknown words embedded in postings and the participants’ better understanding of those words, as seen in Tables 4.4 and 4.13. The participants thus benefited from the available “affordances” (Gibson 1979; van Lier, 2000; 2004) that the online environment could offer. Being
exposed to the target words on the computer screen, the participants became actively involved in the give-and-take process by means of reading and posting messages, through which they successfully transformed their roles from novices into experts.

The interaction in the threaded discussion was text-based; the completion of tasks was nested in social interaction emerging during the process of reading and posting messages. As Wells (2000) points out, “…dialogue is not restricted to the spoken mode. Indeed, powerful though it is as a means of engaging participants in joint activity, dialogue in the oral mode has one serious disadvantage as medium for knowledge for knowledge building: it leaves no record of what has been jointly constructed” (pp. 76-77). It was this text-based feature that permitted the participants to retrieve posted messages and use them as “thinking devices” (Harasim, 1990; Lotman, 1998; van Lier, 2000; Warschauer, 1997; Wells, 2000) to construct meanings to meet task demands. After discussing the findings concerning the roles of N/E to understand how the participants assisted one another to complete tasks, the next section will focus on how the postings were composed to sustain arguments between and among the participants.

The Functions of the Postings to Maintain the Flow of Interaction

The second circumstance regarding learner interaction was to analyze the postings collected from both tasks to investigate how messages were composed for arguments as well as completion of assigned tasks. The results from the comparison of the coding between two tasks suggest that the participants developed stronger arguments in Task II than in Task I.

Except for the occurrence of OT in Task I, the results of the coding of the functions of the postings collected in two tasks consisted of the following common features: 1) various purposes for using questions in postings, particularly using questions for the purpose of challenging rather than expecting answers to the questions; 2) a juxtaposition of monologic interaction between the authors of articles and the participants as well as dialogic interaction between the participants across groups; 3) uptakes as a means of meaning construction; 4) verifications of task requests during the participation; 5) controversial definitions regarding certain issues deriving from the assigned topics;
and 6) replies for further explanations. These features regarding composing messages for arguments demonstrate the strategies learners employed to sustain arguments as well as the progress of mastery of assigned tasks.

**Various Purposes of Using Questions in Postings**

The participants used questions for various purposes, including 1) identifying flaws in prior messages to challenge the opposite group rather than expecting answers to their questions (QNA); 2) asking the opposite group to provide answers to their problematic arguments in messages (QEA); 3) asking clarifications about unclear statements in prior messages (QCL); and 4) using tag questions to convince the opposing group to agree with what they said (QCV).

The use of questions in messages comprises 12.33% of the total number of postings in Task I and 17.56% in Task II. Within the use of questions in postings, the use of QNA increased from 5.02% in Task I to 13.89% in Task II while QEA dropped from 4.11% in task I to 0.69% in Task II. However, looking at QCL and QCV there was not much of a difference between the two tasks. As discussed in Chapter Four, the use of QNA in postings was not to ask questions for answers but rather to challenge what the opposing group had argued in prior messages. The participants needed to be aware of the arguments posted by the opposing group before they were able to identify the flaws and then turn them into questions for the purpose of challenging. The embedding of QNA provided evidence regarding the participants’ “awareness of otherness” (Bakhtin, 1979). With regard to what the participants said in the post-task interviews, they used the questions to show their disagreements with the statements in prior messages. The increase of QNA suggests that the participants developed stronger arguments in Task II.

**A Juxtaposition of Monologic and Dialogic Interaction**

Due to the task requirements, the participants needed to use evidence identified from the assigned readings to support their group position or use personal experiences or prior knowledge regarding the assigned topics to elaborate their arguments. The participants first interacted with the authoritative voice from the selected reading and then with the conflicting voices from the opposing group, through which newly learned
knowledge was allowed opportunities to refract another and led to meaning co-construction in the tension within the “struggle among competing voices” (Nystrand, Gamoran, Kachur & Prendergast, 2005, p. 8). Monologic interaction was thus juxtaposed against dialogic interaction in learner interaction in the threaded discussion.

In Task II, the participants used more evidence from the assigned reading to make their arguments more authoritative. Thus the authors of the assigned readings played an authoritative role in the threaded discussion. The interaction between the authors and the participants was univocal when the participants were involved in a process to transmit the information from the assigned readings into the threaded discussion, either evidence used to support their group position or vocabulary needed to compose arguments. However, once the messages imbued with the author’s voice received challenges from the opposing group, the monologic text between the author and the participants became a dialogic one between the participants across groups. This finding corresponds to Lotman’s (1988) second function of a text. He states:

in its second function a text is not a passive receptacle, or bearer of some content placed in it from without, but a generator. The essence of the process of generation, however, is not only an evolution but also, a considerable extent, an interaction between structures. Their interaction in the closed world of a text becomes an active cultural factor as a working semiotic system. A text of this type is always richer than any particular language and cannot be put together automatically from it. A text is a semiotic space in which language interact, interfere, and organize themselves hierarchically (p. 37).

Lotman’s statement above precisely points out the transformation (see Wells 1999 for a good discussion of transformation) of a monologic text between the participants and the authors into a dialogic text between the participants across groups. From there, dialogic texts posted by the participants across groups served as a “generator of meaning co-construction” among the participants. The postings thus served as the dual functions of homogeneity as well as heterogeneity in learners’ interaction in the threaded discussion. Univocal voices turned into multivocal ones. Knowledge thus was co-constructed in a bidirectional way among the participants rather than a unidirectional way between the authors and the participants.
Uptakes as a Means of Meaning Construction

When composing responses in the threaded discussion, the participants were likely to incorporate previous arguments into theirs to continue what was being argued. The participants started their messages with transitional phrases, such as “I know what you mean, but if…,” “As you said,…,” “Yes, you are right, but …,” and "On the other hand,…” They then continued arguing for their own group position. The use of these phrases at the beginning of their messages provided evidence that the participants were aware of the arguments in prior messages. Meanings regarding the argumentative issues were revoiced in arguments, which eventually led to co-construction and reformulation in the semiotic process of reading and replying messages in the threaded forum.

Within messages coded as uptakes, most of them were UTC, which comprises 27.40% of the total number of postings in Task I and 21.53% in Task II. Only a few, 3.65% in Task I and 6.94% in Task II, were transformed to a higher level of argument, coded as UTIT when the participants brought in other issues for arguments after the incorporation of ideas from prior messages. When UTIT occurred, the participants from both sides shifted their arguments into another direction and engendered more discussion: The participants within the same group joined the discussion to post more messages to support their group members while the opposing group posted more messages to argue against it.

The occurrences of UTIT provided evidence regarding meaning co-construction among the group members within and across groups. The participants within the same group shared the same perspective regarding the argumentative ideas initiated by their group members. They, in a way, reached a kind of univocality when they posted messages to support what their group members were arguing. By contrast, the participants from the opposing group posted messages to argue from a different perspective. Meaning regarding the argumentative idea was thus co-constructed due to the conflict existing across groups. The voices between the groups were multivocal rather than univocal because of different group positions. Uptakes for meaning co-construction will be further discussed in the aspect, multiple voices.
Verification of Task Requests During the Participation

The present study was conducted in a threaded forum, an asynchronous form of interaction. In most circumstances, the participants were not able to talk to other participants about task requirements. Once the discussion had started, however, the focus was on posting messages to complete the assigned tasks. The participants thus posted messages to confirm the task demands with their group members as well as with the members in the opposing groups so they were sure of whether their postings were on the right track.

That VT dropped from 4.11% to 1.39% of the total number of postings indicates that the participants in Task II were surer of their participation although some of them were still apparently confused with what should be included in their arguments in Task II. For example, in Task II several messages were posted to discuss whether hairstyle should be included in the discussion when arguing about the mandatory school uniform policy because some participants thought that hairstyle usually went hand in hand with the school uniform policy.

The occurrences of VT in both tasks revealed that the participants in an asynchronous mode needed to confirm their participation with other participants while posting messages to complete the assigned tasks.

Messages Regarding Controversial Definitions

Because the tasks requested the participants to argue about controversial topics, issues deriving from the assigned topics were argued due to different group positions. In Task I, the participants posted messages to argue about the core controversy such as ‘coma’, ‘revive’ and ‘vegetative’, especially within the threads, as chance to revive, vegetative state, and there is no revive from coma to argue about the situations of being in a coma, the meaning of being revived from a coma, and of being in a vegetative state.

As seen in Examples 23, 24, 25 in Chapter Four, 8s, 9s, and 7s respectively argued about situations of being in a coma, in a vegetative state, and being revived from a coma in different threads. Their messages engendered more arguments from both sides to argue about the definitions of these words due to different group positions. According to Bakhtin (1981):
The word in language is half someone else’s. It becomes “one’s own” only when the speaker populates it with his intention, his own accent, when he appropriates the word, adapting it to his own semantic and expressive intention. Prior to this moment of appropriation, the word does not exist in an impersonal and neutral language, because it exists in the mouths of other persons, in the context of other persons, at the service of the purposes of other persons; therefore, one must expropriate the word and make it his own (p. 293-294).

The arguments regarding situations in these three words allowed opportunities for the participants from different groups to construct the meanings regarding controversial issues in the assigned topics as well as the meanings of these unknown words.

This finding supports Bakhtin’s notion that word meaning exists in social interaction. When the participants picked up the words from other participants and made them their own to suit their intentions, the words obtained their meanings. The semiotic process of reading and posting messages allowed the participants to argue about the meanings of these words and thus they developed better understandings of these words in arguments. Similar cases existed in Task II. The participants argued about ‘financial burden’ and ‘monotonous styles’ to develop their better understandings regarding these two words.

Replies for Further Explanations

In order to provide the opposing group clear ideas about their arguments, the participants replied to clarify whatever they thought was unclear in their postings, even when they were not asked for clarification. RFE also occurred when the participants received challenges from the opposing group. Replies for further explanations increased, more than double, from 3.65% of the total number of postings in Task I to 8.33% in Task II. The increase indicated that the participants in Task II paid more attention to what they had already posted as well as took challenges from the opposing group.

In Task I, the participants posted messages and left the thread to post messages in another thread. By contrast, in Task II, they more often than not stayed within the same thread or came back to see how the opposing group argued against their postings. They replied to provide further explanations to take challenges from the opposing group.
To summarize, the coding of the functions of the postings illustrated how the participants struggled to compose messages to maintain arguments between messages in an asynchronous mode. The results of the coding across tasks instantiated their progress of mastering the tasks. The coding of the functions of the postings provided ample evidence regarding the nature of social interaction emerging during the process of task completion. The discussion concerning the embedding of QNA in messages and uptakes from prior messages provided strong evidence that the participants were well aware of what the opposing group was arguing, and from there they were to build on to their arguments, either to challenge the opposing group or to extend the arguments. These two types of functions of postings illustrate Bakhtin’s notion (1979) of “awareness of otherness”. For Bakhtin,

To be means to be for the other, and through him, for oneself. Man has no internal sovereign territory; he is all and always on the boundary; looking within himself, he looks in the eyes of the other or through the eyes of the other…I cannot do without the other; I cannot become myself without the other; I must find myself in the other, finding the other in me (in mutual reflection and perception) (p. 312, italics added).

The occurrence of QNA and uptake provide strong evidence that meanings were constructed between “self” and “other” in competing voices because of the assigned tasks. The conflict thus serves as what Wertsch (1991) called a “generator of meaning” for the participants to co-construct meanings regarding the issues they were arguing.

In addition, the coding of functions regarding the use of evidence from the assigned readings and personal experience illustrates Lotman’s (1988) notion of the dual functions of texts. On the one hand, the postings served as a means of transmission of knowledge when the participants adopted authors’ voices into their postings to strengthen group position. On the other hand, when the participants from the opposing group responded to argue for their disagreements, the monologic interactions between the participants and the authors turned into dialogic ones; meaning thus was co-constructed in the discursive and goal-directed action across groups. The monologic interactions were interwoven with dialogic ones in the process of information transmission as well as knowledge construction. The third circumstance below further discusses the findings.
regarding the multiple voices emerging in monologic interactions as well as dialogic interactions in the threaded discussion.

**Multiple Voices for Task Completion**

As mentioned previously, Wertsch (2000) has explored the nature of social interaction and asserts that communication is inherently social in nature, which involves two opposing tendencies: interubjectivity and alterity. He further argues that these two opposing tendencies of social interaction should not be investigated in isolation because both of them simultaneously exist in social interaction. The findings in the third aspect regarding multiple voices emerging in the threaded discussion support his arguments.

The present study requested the participants to read selected articles and use evidence from the assigned readings to debate the controversial issues. To accomplish the assigned tasks, the participants were involved in social interaction in three circumstances: 1) the interaction between the participants and the authors of selected readings when they read and cited the evidence from the readings; 2) the interaction among the participants within the same group to support one another for their own group position; and 3) the interaction among the participants across groups to argue against one another over the controversial issues. The evidence discussed in Chapter Four demonstrated that the social interaction emerging in the threaded discussion occurred not only homogeneous voices, termed as intersubjectivity, but also heterogeneous voices, termed as alterity.

As discussed previously, threaded discussion is text-based communication. All interactions within and between groups were recorded in posted messages. An analysis of their postings reveals how the participants interacted in the juxtaposition of univocality and multivocality. When the participants adapted the authors’ voices into theirs to support their group positions, they shared the authors’ views. At that moment, the participants and the authors were “on the same page” and thus shared the same view regarding the issues discussed. Meanwhile, the participants within the same group also reached explicit and implicit agreements with one another. They either directly replied to agree with each other or implicitly reached a consensus when they used argumentative
ideas initiated by their group members in their postings to collaboratively argue against the opposing groups. Finally, intersubjectivity also existed among the participants across groups when they partially agreed with one another in their arguments. The evidence was shown in their postings, such as “you are right,…but,” “I agree with you, but if…,” and “I know what you mean…, but…” These opening phrases found in a number of posted messages indicated a certain level of agreement existing between the participants across groups. Evidence in Table 4.7 illustrated, for example, that the participants in both group agreed that a vegetative state was a very painful state although they were arguing about the living will of a person in that state from different perspectives.

As for alterity, the present study provided ample evidence regarding voices in conflict emerging during task engagement. The heterogeneity existing between groups brought about expansion of arguments as well as meaning construction regarding unknown words. Tables 4.8 and 4.17 listed evidence regarding the conflicts between groups in Task I and II. Each time an argumentative idea was initiated, the participants from the opposing group posted messages to argue against it while the participants within the group posted messages to expand and strengthen the idea. The revoicing of an argumentative idea within and across groups gave rise to an “interanimation of voices” (Bakhtin, 1981) among the participants, through which arguments were expanded and meanings regarding unknown words were co-constructed, re-constructed, and reformulated to contribute to the completion of the assigned tasks. Table regarding ‘vegetative’ and Table 4.10 regarding ‘revive’ are two examples illustrating the process of how meanings were co-constructed and reformulated in competing voices.

To summarize, Research Question # 1 explored patterns of learner interaction from three aspects. First, the investigation started from the roles that each participant played in two tasks. It then moved to functions of the postings to investigate how the participants composed their messages to maintain the flow of arguments. Finally, the investigation focused on an in-depth discussion regarding the emergence of a juxtaposition of intersubjectivity and alterity for expansion of arguments as well as meaning co-construction regarding unknown words. Research Question # 2 will further address word appropriation strategies that the participants employed to appropriate
unknown words to maintain the flow of interaction when encountering them during task engagement.

**Word Appropriation Strategies**

Word meaning is crucial to communication. While participating in the threaded discussion, the participants had an immediate need to come to a better understanding of unknown words encountered during task engagement to maintain the flow of arguments as well as to deal with unknown words encountered during task engagement. Data analysis presented in Table 4.18 showed that the participants were able to employ a variety of WASs to come to a better understanding of word meanings while responding to messages or to participate in threads containing unknown words.

As for getting better understandings of unknown words embedded in messages, the participants preferred referential strategies to infer meanings from various sources, including the postings in arguments, the assigned readings, prefixes, similar words in their L1, word association, and dictionary consulting. The total employment of inferential strategies comprises 91.67% in Task I and 92.86% in Task II, which was a sharp contrast with the employment of dictionary-consulting strategy, 8.33% in Task I and 7.14% in Task II. Within the various inferential strategies, guessing meanings from arguments in postings was the most frequently used strategy in both tasks, which comprises 45.83% in Task I and 38.10% in Task II. The participants with similar vocabulary in their L1 had advantages on meaning inferences, constituting 29.17% in Task I and 23.61% in Task II. The association of an unknown word with a known word also provided help for meaning inferences, especially in Task II when the participants inferred the meaning of ‘burden’ from ‘financial’. Overall, the total number of employment of WASs to get the meanings of unknown words was 24 times in Task I and 42 times in Task II, which indicated that the participants in Task II learned how to use WASs to infer words’ meanings.

The statistical description regarding the WASs used for coming to better understandings of unknown words reveals two facts: First, the participants preferred to guess meanings rather than to consult them in the dictionary. Second, inferring word
meanings from the postings in conflict was the main strategy that the participants used to develop their better understandings of words’ meanings. These findings correspond with Bakhtin’s notion (1981) that word meanings are appropriated in social contexts when used to interact with interlocutors rather than in their “neutral and impersonal meanings” consulted in a dictionary (p. 294). In the present study, the participants argued and redefined certain words due to their own group positions. They intentionally interpreted the words differently to support their group positions, especially the unknown words including ‘coma’, ‘revive’ and ‘vegetative’ in Task I. These words were embedded in social contexts when the participants used them to argue about their group position. According to Bakhtin (1981), “language, for individual consciousness, lies on the borderline between oneself and the other” (p. 293). The meanings of these words were constructed between the borderline of ‘self’ and ‘other’ across groups. For example, 6s said that he developed a better understanding regarding the meaning of ‘vegetative’ when he read various postings by different participants in arguments. A similar case occurred to 5o. He developed his understanding of ‘revive’ in arguments with the participants in the supporting group and picked up this word and used it his postings for three times.

As for WASs employed to respond to prior messages and to participate in threads containing unknown words, AV was the most frequently used WAS in both tasks. The familiarity with the assigned topic and task demands in Task II were two factors that affected their employment of WASs for responses between two tasks.

In Task I, the participants needed to use ‘coma’, ‘euthanasia’, ‘revive’, and ‘vegetative’ to argue about assisted suicide, whereas in Task II the participants were able to use their own words to reply because of their familiarity with the topic of mandatory school uniform policy. The employment of AV in Task II thus dropped from 76.19% in Task I to 50.00% in Task II while the employment of PP increased from 9.52% in Task I to 30.77% in Task II because the participants in Task II. For example, the participants used “spend extra money”, “have to pay additional cost”, and “have to buy” to express the concept regarding “financial burden”; “look the same”, “wear the same” and “lack chances to express their own style” to replace “monotonous style”, and “control students” and “regulate students” to deal with ‘discipline’. In the post-task interviews, the participants revealed that they picked up phrases from different messages to generate the
concepts of these unknown words so that they were able to use a similar phrase to express what they wanted to say, although they were not sure of the exact meanings of those unknown words when composing responses.

The second factor that affected the employment of WASs for responses was that the participants in Task II were now more familiar with the task demands and developed a new strategy, task engagement strategy (TS), to compose responses. From the participation in Task I, they learned that they were requested to argue about the controversy deriving from the assigned topic. If they said something opposite to the opposing group, they were on the right track. In the post-task interviews, 3s and 5s pointed out that they knew that they were arguing with the opposing group. They read messages posted by the opposing group and said something opposite to what the opposing group had already said in their messages. For instance, when the opposing group argued about financial burden on poor families, 5s said that poor students could find cheap uniforms somewhere else. With the employment of TS, they were able to be free from lexical barriers and post appropriate messages to complete assigned tasks. Without any instruction either from the instructor or the researcher, the participants creatively developed a new strategy to solve the problem in their task engagement.

This finding suggests that the participants used posted messages from the opposing group as “thinking devices” for them to build up the concepts of unknown words. Their employment of WASs for responses revealed their differential progress regarding appropriating unknown words during task engagement. Some avoided responding or participating in messages or threads containing unknown words while others were able to pick up the concepts and use their own words to paraphrase or consciously copy the unknown words in their postings. The avoidance or revoicing of unknown words into their responses revealed their struggles with the encountering of unknown words during task engagement.

When looking at individual participant’s WASs employed, either to come to a better understanding of unknown words or to respond to the encountering of them, each participant developed his/her unique WASs, which seems to be related to their personal characteristics, cultural backgrounds, L1, and learning styles. They flexibly adjusted the WASs, depending on the targeted words and the assistance that they received from prior
postings. Some used one WAS while some combined several WASs to solve their problems. For some participants, their immediate needs to comprehend and respond to messages stimulated them to play an active role to search for the affordances in online environments. Task engagement thus induced them to appropriate unknown words: Some participants receptively inferred the meanings without posting any responses while some of them productively paraphrased or consciously used them in their replies. This finding supports Laufer and Hulstijn’s study (2001) that task-induced involvement for vocabulary development included need, search, and evaluation. This finding also supports Henriksen’s (1999) argument regarding three dimensions of vocabulary development: development from partial to precise comprehension, development along the depth of knowledge dimension, and development from receptive to productive control. Although the purpose of the present study did not aim at incidental vocabulary learning, an analysis of postings suggests the occurrence of incidental vocabulary learning during the process of appropriating unknown words in task engagement.

Summary

Grounded within the SCT framework, the present study explored how adult ESL learners interacted with one another in threaded discussion to complete joint tasks. The time tracking system within the computer software allowed the researcher to analyze the dynamics of discourses emerging among the participants within and across groups during task engagement. The microgenetic analysis allowed the researcher to delve into the interanimation of voices as well as word appropriation strategies emerging in threaded discussion. The results of data analysis suggest that the participants played a fluid role, assisting one another in different circumstances to complete tasks. The fluid roles regarding expert and novice among the participants suggest that the participants brought different strengths and weaknesses to the threaded discussion because of personality characteristics, learning styles, cultural backgrounds, and L1 of the each participant. The equality of participation in an online environment allowed the participants to interact at pace of their own.
An analysis of functions of the postings reveals the process of how the participants struggled with the maintenance of arguments in the asynchronous mode as well as the process of their mastery of task requirements and participation in the threaded forum. They suffered from the time-delayed nature of interaction as well as benefited from the retrieval of posted messages as a means of knowledge construction to expand arguments and infer meanings of unknown words.

A further analysis of multiple voices emerging within and across groups during participation sheds light on the nature of social interaction during task engagement. The findings suggest that univocality and multivocality co-existed within and across groups despite of multivocal nature of task demands. The univocal interaction between the authoritative voices and support from the group members strengthened the arguments while multivocal interaction led to knowledge construction. Both of them were essential to task accomplishment in the many-to-many interaction in the threaded discussion.

Finally, the investigation of word appropriation strategies revealed the importance of word meaning constructed in communication. Although some participants tended to use an avoidance strategy to deal with the encountering of unknown words, they, nevertheless, narrowed down possible meaning of unknown words. For example, one participant told the researcher that she thought that ‘financial burden’ was similar to ‘money problem’ or ‘money limit’. The participants benefited from the threaded forum, in which all messages were linked under a certain issue within a thread. By reading a variety of messages, the participants built their concepts of words’ meanings and were able to incorporate other voices into theirs during the process of appropriation of unknown words. Word meanings were thus co-constructed in social interaction rather than from impersonal and neutral meanings in the dictionary.

**Recommendations for Future Research**

The present study explored the uninvestigated area in second language education regarding adult learners’ interaction and their word appropriation strategies in a threaded discussion forum. Research on second language education should continue to pay attention to the impact of online education on adult ESL learners and prepare them to
face the challenges in the future. During the process of data collection and analysis, the researcher found that some areas beyond the scope of the present study should be further investigated.

First, the participants were assigned to participate in the supporting or opposing group before the participation. Some participants had their personal preference to the group position. It would be interesting to investigate whether or not the participants would perform differently if they could switch to a different group position.

Second, the participants in the present study were all non-native speakers. Further research could include native speakers in participation to investigate the differences in learner interaction between native/nonnative and nonnative/nonnative speakers.

Third, the present study was designed to investigate learner interaction as well as their WASs when encountering unknown words. Before participation, the participants were not told to use unknown words in their postings. However, the results of the study suggest that incidental vocabulary learning seems to occur during task engagement. Studies focusing on this topic are recommended.

Fourth, with regard to the WASs used for getting the meanings of unknown words, from the data in the present study, Asian participants seemed to prefer consulting word meanings before or during participation. Future research could investigate whether or not there is a tendency among Asian students to prefer verifying words’ meanings when encountering unknown words in their language learning.

Fifth, at present, many studies have been conducted to investigate intersubjectivity in social interaction. There should be more studies to investigate how language learners can construct their knowledge through voices in conflict rather than by searching for a consensus.

Sixth, during the post-task interview, one participant commented that instead of learning words from other participants, he observed how other participants expressed themselves in messages. Future research could investigate individual participants’ writing development before and after participation.

195
Conclusion

Online education is a growing phenomenon at institutions of higher education in the United States. It is an unavoidable trend that adult ESL learners will take online courses or participate in threaded discussion in blended courses in the future. Many studies have been conducted to investigate learner interaction in the synchronous mode. The study described herein was an exploration regarding adult ESL learners’ social interaction as well as their word appropriation strategies to deal with unknown words during task engagement. The researcher did not attempt to answer all the possible questions that could have been raised.

Nevertheless, the study did shed light on certain details regarding social interaction emerging in a threaded discussion forum regarding participants’ roles of E/N, the functions of the postings to maintain the flow of arguments, emergence of multiple voices for task completion, and word appropriation strategies employed during task engagement. Wertsch (2000) argues that communication is inherently social. The completion of tasks in the threaded forum relies on the participants’ social interaction. A sociocultural perspective allowed the researcher to start from the participants’ roles in assisting one another to complete tasks, to move to the functions of their postings, and to go deep down to the subtle interanimation of voices that was among the participants and the authors of assigned readings.

Intersubjectivity and alterity allowed for a complex analysis regarding peer interactions among adult ESL learners in the nonlinear and many-to-many interactions during a threaded discussion about controversial topics. Consciousness is co-knowledge (Leont’ev, 1978). Coming to understand adult ESL learners’ interactions in a threaded discussion provides ESL instructors and educators insights into how to prepare their adult ESL learners for future challenges.
Name: ______________________

**BEFORE THE THREADED DISCUSSION**, please fill in the chart to let me know your vocabulary learning during the process of the discussion. This chart will help me learn your vocabulary knowledge **before** the discussion.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. I don’t remember having seen this word before.</td>
<td></td>
</tr>
<tr>
<td>II. I have seen this word before but I don’t know what it means.</td>
<td></td>
</tr>
<tr>
<td>III. I have seen this word before and I think it means (synonym).</td>
<td></td>
</tr>
<tr>
<td>IV. I know this word. It means _____ (synonym)</td>
<td></td>
</tr>
<tr>
<td>V. I can use this word in a sentence. e.g.</td>
<td></td>
</tr>
</tbody>
</table>
### APPENDIX B

**AFTER-TASK VOCABULARY KNOWLEDGE SCALE**

Name: ______________________

**AFTER THE THREADED DISCUSSION**, please fill in the chart to let me know your vocabulary learning during the process of the debate. I would like to learn the differences of your understanding of the same words **before and after** the discussion.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. I don’t remember having seen this word before.</td>
<td></td>
</tr>
<tr>
<td>II. I have seen this word before but I don’t know what it means.</td>
<td></td>
</tr>
<tr>
<td>III. I have seen this word before and I think it means (synonym).</td>
<td></td>
</tr>
<tr>
<td>IV. I know this word. It means _____ (synonym)</td>
<td></td>
</tr>
<tr>
<td>V. I can use this word in a sentence. e.g.</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C

INFORMED CONSENT FORM

I freely and voluntarily and without any element of force or coercion, consent to be a participant in the research project entitled “An Exploration of Interaction and Vocabulary Appropriation Among Adult ESL Learners Engaged in a Threaded Discussion Forum”.

This research is being conducted by Su-Lin Tai, who is a candidate for the doctorate degree in the Department of Middle and Secondary Education at The Florida State University. The purpose of the study is to understand better how adult ESL learners interact on a threaded discussion board and their strategies of dealing with unknown words during task engagement. I understand that if I participate in the study, I will be asked to read articles and post messages on the discussion board. The messages I post will be used to analyze learner interaction and word appropriation strategies. The researcher will ask me to fill in pre-task and post-task vocabulary knowledge scales, and she will interview me for clarification of my word appropriation strategies after task engagement. The researcher will audiotape my interviews for data analysis. The audiotapes will be destroyed after the study is completed. All information obtained during the course of the study will remain confidential to the extent allowed by law.

I understand that my participation is totally voluntary and that I may stop participation at any time. All my answers to the researcher’s questions, pre-task and post-task VKS, and messages posted on the discussion board will be kept confidential and I will be identified by a pseudonym. My name will not appear on any of the results. The results of this study may be published, but my name will not be used.

I understand that there may be some benefits to participate in this study. First, it will give me an idea how to deal with online courses after I enter an American university in the near future. Second, I will learn how to participate in online discussion boards and also learn how to write argumentative essays. I understand that I may contact Su-Lin Tai in the Multilingual and Multicultural Education, Department of Middle and Secondary Education, or call her at home at (850)-575-2910, for answers to questions about the study. I may also ask any questions about my rights as a participant in this study by contacting the chair of the Human Subjects Committee through the Vice President for the Office of Research at (850) 644-8633.

I understand that this consent may be withdrawn at any time without prejudice, penalty or loss of benefits to which I am otherwise entitled. I have been given the right to ask and have answered any inquiry concerning the study. Questions, if any, have been answered to my satisfaction. I have read and understand this consent form.

________________________________            _____________________________
(Subject)                                                              (Date)
APPENDIX D

TASK GUIDELINES FOR THREADED DISCUSSIONS

Task Type: Threaded Discussion
Title: Assisted Suicide & Mandatory Uniform Policy

Instruction:

You are going to read two controversial articles Assisted Suicide this week and Dressing for Success next week respectively. You will be assigned into one of two groups to argue in a threaded discussion forum about the controversial issues derived from the two articles.

Please read the article and underline any unknown words you run across. After reading the article, you will be divided into two groups to argue about the issues “Assisted Suicide” this week and “Mandatory Uniform Policy” next week. If you are assigned to the group supporting the issues, you will need to look for the arguments in the article that support your group but you might also need to look for the ideas that are against the policy because you need to attack the flaws in arguments the other group might make. Likewise, if you are assigned to the group opposing the policy, you will look for the arguments that oppose the policy and also ideas that may be used to attack the opposing group. Dictionaries are available on request, but if you use a dictionary, you will need to write down the meanings of unknown words in the space next to the word on the article. You can also guess the meanings of any unknown words during the reading process or brainstorm them with your group members during small group discussion. You may also have other strategies to figure out the meanings of unknown words during participation in the threaded discussion forum. The following are the procedures guiding you to finish the tasks.

Part I: Article reading
--Read the article silently to get the main idea while your instructor reads it aloud.
--Then read the article on your own, highlight unknown words with the yellow marker, and identify the evidence you are going to use to argue for your team position and against the opposing group.
--On the sheet provided, please fill in unknown words that you highlighted right after you finish reading the article.

Part II: Pre-planning in individual groups
--Using the computer, discuss the article with team members and brainstorm the evidence and words or phrases you are going to use to initiate threads with your group members get ready for the discussion. The words or phrases used to label threads will either support your group position or argue against the opposing group.
Part III: Threaded discussion

After small group discussion, your group of six will get online to discuss the controversial issues derived from the assigned articles. During the discussion, each one of you will post as many messages as possible. Please, each message should be at least 30 words in length. You can choose any labels (EVID or ISSUE) to join the discussion when you feel ready to participate, but make sure that your arguments in the messages fit the label.

1. Labeling of threads:

Insert one label into the subject heading of each message using big letters (e.g. EVID and EVID).

2. Types of labels:

**EVID**: Initiate stated argument with evidence from the article you read. You may mention the lines in the article where you find the evidence. You can reply to a message with **elaboration, explanation, and clarification** of a previous statement (evidence). The elaboration can be either from the examples in the article or from your personal experiences, or both.

**CRIT** (counter evidence): Initiate stated argument with counter evidence found in the assigned article. Reply to a message from the opposition to identify flaws or wrong logic in argument to challenge the opposing team.

3. Examples of labeling:

**EVID: decrease of violence (supporting group)**

**EVID: financial burden (opposing group)**

**CRIT: survey (supporting group)**

**CRIT: panacea (opposing group)**

Time allocation in each phase of participation

<table>
<thead>
<tr>
<th>Time</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>11: 10—11: 35</td>
<td>Small group discussion</td>
</tr>
<tr>
<td>11: 35—1:00</td>
<td>Threaded discussion</td>
</tr>
<tr>
<td>1:00 --1: 10</td>
<td>Post-task VKS</td>
</tr>
</tbody>
</table>

201
**Time | Tasks**
--- | ---
9:05—9:20 | Break
9:20—10:45 | Threaded discussion
10:45—11:00 | Fill out post-task VKS

**HOW TO LOG ON TO THE BLACKBOARD**

1. Go to [http://campus.fsu.edu](http://campus.fsu.edu)

2. Enter your username and password → You are on the WELCOME PAGE

3. Click on Courses on the top bar

4. Click on TAI - DEVELOPMENTAL SITE

5. Click on COMMUNICATION, you have two choices

   --Click on Group Pages, you can discuss within your group about the words used to initiate threads and evidence found in the articles used to support your group and argue against the opposing group.

   --Click on Discussion Boards: You are in the discussion board for the controversial discussion.

   --Click on TOPICS OF DISCUSSION. You can read a brief instruction of the task.

   --Click on the top Add New Thread. You can initiate threads to start the threaded discussion.
APPENDIX E

FSU HUMAN SUBJECTS COMMITTEE APPROVAL LETTER

Florida State UNIVERSITY

Office of the Vice President For Research
Human Subjects Committee Tallahassee,
Florida 32306-2763 (850) 644-8673 • FAX
(850) 644-4392

APPROVAL MEMORANDUM

Date: 4/12/2004

To: Su-Lin Tai
412 W Jefferson St Room 304
Tallahassee, Fl 32301
Dept: MIDDLE AND SECONDARY EDUCATION From: John Tomkowiak ,

Chair Daivd Quadagno

Re: Use of Human Subjects in Research

An Exploration of Social Interaction and Vocabulary Appropriation Among Advanced Adult ESL Learners Engaged in a Threaded Discussion Forum

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Exempt per 45 CFR § 46.101(b) 2 and has been approved by an accelerated review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If the project has not been completed by 4/11/2005 you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the office for Protection from Research Risks. The Assurance Number is IRB00000446.

Cc: Frank Brooks HSC
No. 2004.251
APPENDIX F

ASSISTED SUICIDE

With unprecedented advances in medical technology, a debate has
developed over whether or not a person on life support has the right to die. On
one side of the debate are those who say that withdrawing a feeding tube or
turning off a *respirator* gives doctors the power to take another's life. On the
other side is the view that fundamentally personal decisions about whether to
continue living in an irreversible coma should be left to an individual or a
family. This debate over *euthanasia*, the painless death of persons suffering
from a disease, involves conflicting *ethics*: moral, religious, and even political.
As we advance toward the future, these ethics will involve the lives, deaths, and
destinies of more and more people.

Possibly the most widely reported case in the euthanasia debate was the
Nancy Cruzan case, which involved a thirty-two-year-old woman from
Missouri who existed for many years in a "persistent *vegetative* state" after a
car accident. Her parents lived with the *trauma* of their daughter's *coma* for
years before deciding to do something. Although she had rested in a *serene*
state in her hospital bed for seven years, they did not want her to continue
treatment that would keep her in the state they knew Nancy would not want to
be in. But when her parents *petitioned the court* to disconnect the feeding
tube that was keeping their daughter alive, their request was ultimately
denied. The lower-court ruling was later supported by the Supreme Court.
Without "clear and convincing evidence" that Nancy Cruzan would have
wanted her life-sustaining treatment to end, the Court held that the state is free
to carry out its interest in "the protection and preservation of human life." Right-
to-life activists have used the Court's decision to support their cause.'

A less known case involved an eighty-eight-year-old woman from New
York whose sister had obtained legal permission to remove her feeding tube, but
that permission was later withdrawn. The woman's doctors had given the
*prognosis* that the woman would remain in a hopeless state with no chance of
recovery. However, before the feeding tube was removed, she improved and
began talking and eating on her own. The doctors could not explain how the
woman had *revived*, and defined her improvement as a *miracle*. Later, when the
woman was asked what she would wish to have done in her case, she responded,
"These are difficult decisions," and went back to sleep. The next day she said that
she wanted to wait on a decision. Right-to-life activists have pointed to this
case, too, to support their defense of whom they call "vulnerable people."

Right-to-die activists, in contrast, contend that decisions about treatment
for the dying should belong to the patients and their families. Other court cases
have, in fact, ruled in their favor. When Paul Brophy, a fire fighter, lapsed into
a vegetative state, his wife managed to get hospital officials to remove his
feeding tube, as he had stated that he would never want to live in a coma. Many
people now write "living wills!" stating their wish for euthanasia, in case they
ever end up in a vegetative state. Patients who can make their wishes known "ire
also being granted the right to end their lives. Larry McAfee, who was paralyzed
from the neck down in a motorcycle accident, said that he did not want to exist in his present state. A judge ruled that he could unhook his respirator and die, supporting McAfee’s belief that it was not prolonging his life but prolonging his death. In still another case, Dr. Jack Kevorkian assisted an Alzheimer's patient in dying with his "suicide machine," a machine he had created to help terminally ill patients end their lives. The machine caused the woman to die of a massive heart attack. The court did not find the doctor guilty of murder, as the patient had clearly chosen and administered her own death. Many people, in fact, found the patient to be a courageous pioneer, as she had taken control of the circumstances of her own death before it was too late.

The debate over euthanasia will only become more complex as medical technology continues to grow and improve. There are those who contend that it will soon become just part of medical treatment, others who believe that its potential power of eliminating people will prevent it from becoming a solution for human suffering. Most people hope neither they nor their family members will ever have to confront this issue: a serious disease that causes the deterioration of mental ability.
APPENDIX G

DRESSING FOR SUCCESS

by Jessica Portner Education Week

Linda Moore has been feeling especially proud lately. And she has President Clinton to thank. In his State of the Union Address last month, Mr. Clinton praised student uniforms as a way to promote safety and discipline in public schools. Ms. Moore, the principal of Will Rogers Middle School here, felt a particular satisfaction in the endorsement.

"Everybody is looking for answers, and here is a district that is doing something that is working," she said. For more than a year, the 83,000-student Long Beach system has required its elementary and middle school students to dress in uniform fashion. It was the first public school district in the nation to do so.

Mr. Clinton may have had this Southern California school system in mind when, in his speech, he challenged public schools to mandate uniforms "if it meant that teenagers (would) stop killing each other over designer jackets."

Dramatic Results

Since the mandatory-uniform policy was launched in 56 elementary and 14 middle schools here in fall 1994, violence and discipline problems have decreased dramatically, a recent survey by the district shows.

From the year before uniforms were required, 1993-94, to last year, assault and battery cases in grades K-8 have dropped 34 percent. Physical fights between students have dropped by 51 percent, and there were 32 percent fewer suspensions.

Though each school in the district can choose its own uniform, most Long Beach students are required to wear black or blue pants, skirts or shorts with white shirts. Nearly 60,000 K-8 students are affected by the policy.

Parents have the option of excusing their children from the requirement. But, so far, only 500 parents have filled out petitions to exempt their children, according to Dick Van DerLaan, a spokesman for the district.

In addition to Long Beach, a few other districts in California and across the country are testing the benefits of requiring students to come to school in color-specific, and sometimes style-specific, clothing. The Oakland, Calif. schools began a similar uniform policy last September. And a small number of other districts—including Dade County, Florida; Seattle, Washington; and Charleston, South Carolina—allow schools to decide for themselves whether to require uniforms.

But Long Beach appears to be the first school system to have documented measurable success in improving student behavior. Since students at Rogers Middle School started wearing black bottoms, white tops, and red jackets or sweaters, fights have declined by 40 percent, and academic performance has improved, school officials said.

Uniforms are an effective method of reducing unwanted behavior, Ms. Moore said, because the more formal clothing puts students in the right mind-set to learn. "It's about dressing for success," said Ms. Moore, who said she wears the school uniform as a gesture of solidarity with her students. She has a selection of bright red blazers in her home closet.

Not one parent at Rogers Middle School has opted out of the plan this year, and a
quick look around campus at the unbroken stream of red, white, and black shows that students are largely compliant. But there are some exceptions.

"Tuck in that shirt," she called out to one disheveled teenager who was slouching against a locker. She looked disparagingly at another whose sweatshirt was clearly purple, not red.

In addition to choosing uniform colors, each of the district's schools is allowed to choose the fabric and style of dress. One elementary school requires its pupils to wear ties, and a few others prefer plaid, but most stick with blue or black and white.

"This isn't a private, prep school with a coat-of-arms and saddle shoes look," Mr. Van DerLaan said. "It's a little more California casual."

**Generation Gap**

When Judy Jacob had two children attending Rogers Middle School, she was among the organizers of the effort to bring uniforms to that school. She now has a child in a district elementary school and has remained enthusiastic about uniforms. "There are so few boundaries for kids these days, with the drug use and violence, so if we can give them some limits, that's good," she said.

The uniformity tends to bolster safety because it makes it easier to spot people who may not belong on campus, school leaders say.

But a large portion of the district's students aren't as upbeat as parents and teachers appear to be. And the older they get, the less they seem to like it—which may not bode well for talk in the district of expanding the uniform requirement to high schools.

"It's like we're all in jail," said Hector Gonzalez, a 7th grader at Rogers.

Alicia Nunez, an 8th grader at Franklin Middle School, complained that the regimented attire stifles her creativity. "You come to school to get your education, not for them to tell you how to dress," the 14-year-old said as she strode across campus wearing a chocolate-brown T-shirt and jeans.

**Legal Challenge**

The U.S. Supreme Court hasn't directly addressed the question of whether public schools can impose dress requirements on their students. Lower courts, no however, have generally upheld school dress codes.

Last fall, in one of the first legal tests of a mandatory uniform policy, an Arizona state judge upheld a Phoenix middle school's policy, even though it does not give students the right to opt out of the requirement. Most public schools and districts offer a parent or guardian the opportunity to excuse a child from wearing a uniform. And most do not impose harsh penalties on students who are supposed to wear uniforms but don't. "Schools generally feel they need to exercise latitude when they put their foot down," said Gary Marx, a spokesman for the American Association of School Administrators in Arlington, Virginia.

The American Civil Liberties Union of Southern California, on behalf of a group of low-income families, filed a lawsuit in state court last October against the Long Beach Unified School District, claiming that the district's uniform policy is a financial burden on poor families. The ACLU also claimed that the district has violated state law by neglecting to adequately inform parents about their right to exempt their children from the program.

The law signed in 1994 by California Gov. Pete Wilson to allow state public schools to require uniforms also says that parents must have a way to opt out of such requirements.

The ACLU lawyers say many parents can't afford the cost of school uniforms. About 66 percent of the district's elementary and middle school students qualify for free or reduced-price lunches. The case is currently in mediation.
Hope Carradine, who dresses three of her five children in uniforms, said she had to ask other family members to pay for them. "I shop thrift and buy in bulk; you can't do that with uniforms," she said.

Other Strategies
But district officials say that parents can buy the essential items—a white shirt and a pair of pants—for $25 from several area stores. In addition, many schools sell sweatshirts or shorts for $6 each. Many local charities also provide free uniforms, backpacks, and shoes to needy students.

And if parents find the costs too burdensome, Mr. Van DerLaan, the district spokesman, said, they can always opt out. A flier explaining this right was sent to parents nine months before any uniform policies became effective, he said.

Despite their commitment to the school-uniform policy, Long Beach officials don't view it as a panacea for discipline problems. Other efforts, such as stepped-up parent involvement and additional conflict-resolution classes, also have contributed to the more peaceful climate on campuses, school leaders here say.

The district is continuing to evaluate the benefits of uniforms to determine whether last year's improved numbers for behavior were more than a blip on the screen.

And while some Long Beach students complain that the regulation dress is monotonous and dampens their personal style, many also see a positive side.

"The good thing is people judge you on your inner characteristics rather than what you wear," said Nick Duran, an 8th grader and the student-body president at Rogers Middle School. "Plus," he said, "it's easier to choose what to put on in the morning."
REFERENCES


Su-Lin Tai was born in Taiwan on May 14, 1962. She received her BA in Language Education in Taiwan in 1985 and a MS in TESOL at California State University, Fullerton in 1994. She has numerous teaching experiences in ESL as well as EFL at various levels. While using CD-ROM to teach EFL learners at the university level in Taiwan, she developed her interest in learner autonomy in using the computer for language learning. She returned to the US to pursue her PhD in Multilingual/Multicultural Education at The Florida State University in 2001. While studying at FSU, she conducted an ethnographic study in learner autonomy in CALL during the spring semester of 2002. Before the completion of her PhD, she presented “Learners’ Lexical Development on Asynchronous Discussion Forums: What’s Inside Their Minds?” at the CALICO (Computer Assisted Language Instruction Consortium) conference in Pittsburgh in 2004 and collaborated with Dr. Frank B. Brooks to present a paper regarding social interaction in a threaded discussion at the UNTELE (Use of New Technologies in Foreign Language Teaching) conference in Compiegne, France in 2005.