



**Effects of Using Paper-based Concordance on ELL's Logical Connector
Knowledge**

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**A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of
Master of Arts in Teaching English as an International Language
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บทคัดย่อ

วัตถุประสงค์ของงานวิจัยครั้งนี้มีสี่ประการคือ 1. เพื่อเปรียบเทียบผลของวิธีการสอนคำเชื่อมแบบอุปนัยและแบบนิรนัย 2. เพื่อศึกษาความคิดเห็นของผู้เรียนที่มีต่อประโยชน์ของการใช้คอนคอร์ดแดนซ์บนกระดาศ 3. เพื่อศึกษารูปแบบการปฏิสัมพันธ์ของผู้เรียนในการร่วมกันหาความหมายภาษาไทยของคำเชื่อมจากคอนคอร์ดแดนซ์บนกระดาศ และ 4. เพื่อศึกษาความสำเร็จของการร่วมกันสร้างองค์ความรู้ของการใช้คำเชื่อม กลุ่มทดลองมีสองกลุ่ม คือกลุ่มที่เรียนแบบอุปนัยจากสื่อคอนคอร์ดแดนซ์บนกระดาศ ส่วนกลุ่มที่เรียนแบบนิรนัยใช้สื่อการเรียนแบบดั้งเดิม กลุ่มตัวอย่างคือนักศึกษาที่มีความสามารถด้านภาษาอังกฤษระดับต้นถึงปานกลางจำนวน 47 คน ที่กำลังศึกษาชั้นปีที่สามและสี่ในคณะต่างๆของมหาวิทยาลัยสงขลานครินทร์ แหล่งข้อมูลที่ใช้มีสามแหล่ง ได้แก่ แบบทดสอบก่อนและหลังเรียน ($\alpha=0.75$) การสัมภาษณ์แบบกระตุ้นความจำและข้อมูลที่ได้จากการบันทึกเสียงระหว่างการทำกิจกรรมของกลุ่มตัวอย่าง สถิติที่ใช้วิเคราะห์คะแนนที่ได้จากการทดสอบก่อนและหลังเรียนคือ Paired t-test และใช้วิธีการวิเคราะห์เนื้อหาในการวิเคราะห์ข้อมูลเชิงคุณภาพ ผลของการวิเคราะห์การเปรียบเทียบคะแนนภายในกลุ่มของทั้งสองกลุ่มพบว่า ผู้เรียนที่เรียนแบบอุปนัยและแบบนิรนัยมีพัฒนาการด้านการใช้คำเชื่อมที่ดีขึ้นอย่างมีนัยสำคัญ ($t=6.922$, $p=0.01$, $SD=4.7$ และ $t=7.450$, $p=0.01$, $SD=3.91$) แต่ไม่พบความแตกต่างในการเปรียบเทียบระหว่างกลุ่ม ($t=0.309$, $p=0.76$, Cohen's $d=0.09$) ผลการสัมภาษณ์พบว่าคอนคอร์ดแดนซ์บนกระดาศช่วยให้ผู้เรียนได้เห็นตัวอย่างประโยคมากขึ้น รวมทั้งตำแหน่งต่างๆ ของคำเชื่อม และรู้ว่าคำเชื่อมใช้เชื่อมข้อความได้ที่ระดับวลีหรือระดับประโยค

รูปแบบของการปฏิสัมพันธ์เพื่อร่วมกันสร้างองค์ความรู้ที่พบมีห้าลักษณะคือ การแปล การดึงข้อมูล การขอความช่วยเหลือจากครู การค้นหาและการค้นพบความหมาย อุปสรรคในการร่วมกันสร้างองค์ความรู้ระหว่างผู้เรียนมาจากการไม่ทราบความหมายของคำศัพท์ในประโยค

ตัวอย่าง การทำวิจัยครั้งต่อไปควรศึกษาผลของการใช้คอนคอร์แดนซ์บนกระดาษเป็นสื่อการสอน
แบบนิรนัยให้กับผู้เรียนที่มีความสามารถด้านภาษาอังกฤษต่ำ

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ABSTRACT

The aims of the study were fourfold: 1. to compare the effects of teaching logical connectors through inductive and deductive teaching methods, 2. to explore learners' opinions towards the usefulness of paper-based concordance, 3. to explore pattern of interactions during knowledge co-construction process using paper-based concordance, and 4. to investigate the successfulness of the knowledge co-construction in learning logical connectors. There were two experimental groups: the inductive teaching group using paper-based concordance and the deductive teaching group traditional teaching materials. Forty-seven undergraduates of Prince of Songkla University took part in the study. They were in their third or fourth year. The English proficiency ranged from beginners to intermediate. Data were collected using 1. identical pre and posttests ($\alpha = 0.75$), 2. stimulated recall interview questions, and 3. dialogues during knowledge co-construction activities. Paired t-test was used to analyze the test scores while content analysis was used to analyze verbal data. A significant improvement of within group comparison was found (inductive teaching group $t=6.922$, $p=0.01$, $SD=4.7$; deductive teaching group $t=7.450$, $p=0.01$, $SD=3.91$). However, no significant difference between group comparison was found ($t=0.309$, $p=0.76$, Cohen's $d=0.09$). Interview results revealed that the concordance allowed the participants to see more examples including different positions of logical connectors as well as helping them learn that logical connectors can be used in linking both phrase and clause.

Five phases of interaction during knowledge co-construction were identified, namely translating, eliciting, requesting help from teacher, exploring and meaning discovering. Insufficient vocabulary knowledge was found to obstruct their knowledge co-construction. Future research can further examine the effect of employing paper-based concordance using deductive teaching approach to teach low proficiency learners.

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LIST OF PAPERS

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The 3rd AsTEN Conference:
Teaching Competency Development: Issues, Innovation, & Initiatives
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May 15th, 2017

INVITATION LETTER

**Kasetsart University, Bangkok, Thailand in collaboration with
 Association of Southeast Asian Teacher Education Network (AsTEN)**

Dear Authors,

Author(s): Thamonwan Dankittikul & Chonlada Laohawiryanon, Prince of Songkla University, Thailand

Paper Title: Co-Construction of Grammatical Knowledge among Non-Experts through Paper-Based Concordance

Presentation Type: [Oral presentation](#)

Congratulations on the acceptance of your paper! And thank you very much for your interest in the 3rd AsTEN Conference: Teaching Competency Development: Issues, Innovation, & Initiatives (AsTEN 2017). On behalf of the Conference Organizing Committee, I would like to formally invite you to present your research study in the AsTEN 2017 conference, held at the Faculty of Education, Kasetsart University, Bangkok, Thailand on July 19th – 21st, 2017. To secure your presentation, please register and pay for the registration fee on our website no later than July 12th, 2017 (Pacific Standard Time). **The deadline for revised abstract submission (if any) is on June 15th, 2017.** The due date for submission of a full paper (optional) is also on June 15th (PST). The final schedule will be posted in our website shortly.

Should you have any inquiry, please contact udomluk.k@gmail.com (Dr.Udomluk). For more information regarding this conference, please check out the conference website <http://conference.edu.ku.ac.th/asten2017/>

Yours Sincerely,

P. lahmongkol

Assoc.Prof.Dr. Pattamavadee Lahmongkol
 Dean of Faculty of Education, Kasetsart University
 Chairman of AsTEN 2017 Organizing Committee

The 3rd AsTEN Conference: Teaching Competency Development: Issues, Innovation, & Initiatives





[Verdian Journal] Submission Acknowledgement

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Miss Thamonwan Dankittikul:

Thank you for submitting the manuscript, "Effect of Paper-based Concordance on Thai Low Proficiency English language learners' Logical Connector Knowledge" to ฉบับภาษาไทย

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1. INTRODUCTION

Grammatical knowledge is believed to be difficult to acquire among English language learners (ELLs). For Thai ELLs, it has been found that common grammatical errors are subject verb agreement, determiners, tenses, prepositions and logical connectors (Jenwitheesuk, 2009; Prommas & Sinwongsuwat, 2011). Most errors seem to be caused by insufficient knowledge of the target language and the interference of mother tongue. For logical connectors (LCs), in particular, many studies have found growing problems of LC usage (Cresswell, 2007; Crewe, 1990; Granger & Tyson, 1996; Lei, 2012). The results of previous studies indicate the problems of misusing, overusing and underusing LCs both in high and low proficiency learners (Boulton, 2009b). The problems arise from lack of awareness in grammatical rules such as sentence formation, L1 interference, non-existence of verbs in clauses, and misusing logical connectors semantically (Prommas & Sinwongsuwat, 2011). LCs seem to be problematic among most second language learners because there are more than one way to link sentences, and there are many LCs that have similar meanings (Celce-Muria & Larsen-Freeman, 1999; Liu, 2008).

According to the studies of Limtrairat and Aksornjarung (2015) and Nonkukhetkhong, Baldauf and Moni (2006), Thai teachers employ deductive teaching including translation, grammar explanation and vocabulary explanation in their English classrooms. With everything taught explicitly, grammatical problems are still the main issue found in many studies, particularly those investigating writing skills of Thai learners (Sermsook, Liamnimitr & Pochakorn, 2017; Watcharapunyawong & Usaha, 2013).

While deductive teaching focuses on teachers providing rules to learners directly, inductive teaching is more student-centered, as learners are encouraged to construct their own knowledge which requires several cognitive skills such as “predicting, observing, noticing, thinking, reasoning, analyzing, interpreting, and reflecting” (O’Sullivan, 2007, p.277). Such skills may in turn lead to longer retention (Laufer & Hulstijn, 2001), and can help learners become more autonomous (Boulton, 2009a; Johns, 1991).

Data-driven learning or DDL is an example of inductive instruction. It encourages learners to search a target language item through a search engine or corpus. After the search, learners form hypotheses about rules or meaning of the target language item from a large amount of authentic data presented in concordance lines. Several studies established that DDL was helpful in improving students' grammatical ability such as prepositional collocations, linking adverbials, and passive voice (Chujo, Anthony, Oghigian & Uchibori, 2012; Garner, 2013; Koosha & Jafarpour, 2006; Smart, 2014).

A large number of studies of DDL conducted with advanced learners leads to a misconception that DDL is only good for advanced learners, but not for low proficiency learners (Boulton, 2010). Part of it could be because there was a concern over low proficiency learners having inadequate linguistic knowledge to analyze a large amount of online data in KWIC (Key Word in Context) format. In this format, the search word appears in the middle of truncated concordance lines which listed for vertical reading. For some researchers, such truncated concordance lines could be confusing for language learners to interpret or draw conclusions (Boulton, 2009b; Lamy & Klarskov Mortensen, 2012).

Alternatively, paper-based concordance is, thus, recommended for low proficiency learners because it can be simplified or modified to create more user-friendly materials (Lamy & Klarskov Mortensen, 2012). Searches can be made in advance to provide only the results needed for learners to examine. Using paper-based concordance could also serve as a fundamental step of "soft DDL" before learners move on to the real autonomous search or "hard DDL" on their own (Boulton, 2010; Gabrielatos, 2005). Through a slow start, learners can develop important techniques that are useful for their autonomous search in the future (Boulton, 2009a). A guided teaching approach under DDL concept called "four Is" was proposed by Carter and McCarthy (1995) and Flowerdew (2009). It is believed to be helpful in language learning since learners need to go through four learning stages, namely illustration, interaction, intervention and induction. The third I, intervention, works as an optional step for teachers to help students overcome difficulties.

To help learners develop their knowledge and skills, teachers as well as peers play an important role in their learning process. According to social constructivism theory proposed by Vygotsky (1978), a child can successfully learn by the help of an adult through social interactions in the society that he grows up in. This is similar to classroom contexts where a less knowledgeable learner or novice can learn from a teacher and a more knowledgeable peer or expert. Language or the tool transforming thoughts into social speech or dialogue (Walqui, 2006) is considered vital for such social interactions to take place. Communication allows people to be part of an interactive ground, as they need to gather, organize and explore new information to construct meaning or knowledge (Ahn & Class, 2011). Interaction emerging in each child or learner occurs twice; first, in the “interpsychological category” (between people) through discussions or arguments and occurs again in the “intrapsychological category” (within a person) for reflection and logical reasoning (Mercer & Littleton, 2007; Vygotsky, 1981, p.163). In other words, both social and private speeches help shape each individual understanding (Barnard, 2002).

Maintained by Mercer and Littleton (2007), a task that requires learners to solve problems collaboratively helps develop learner’s language ability especially when language is used as their tool for reasoning. This is because, in this situation, learners do not just simply interact but tend to “interthink”, or combine their knowledge to complete the task.

Task design is an important factor in creating collaborative activities. The assigned tasks which are too simple would no longer be necessary for joint working, as they can be easy to solve alone (Mercer & Littleton, 2007). Similarly, too complex tasks inhibit students' understanding. When comparing open-ended tasks to closed tasks, the open-ended ones are recommended because they enhance interaction among students. Closed tasks, on the other hand, only seek for one correct answer, and this might allow the more knowledgeable participants to dominate the conversation (Arvaja, 2005).

Wood, Bruner and Ross (1976) defined the help or support emerging during the process of achieving a task or problem solving as scaffolding (p.90). Wood (1988) further stated that scaffolding is contingent, collaborative and interactive. First, it is contingent in terms of behavior, as an action can be influenced by or depends on other

actions to occur. Second, it is collaborative in nature because the final outcome is jointly constructed. Finally, it is interactive when two or more individuals mutually engage in completing an activity. Donato (1994) further expanded the original notion of scaffolding to cover the relationship of those who are equally knowledgeable and participated in a shared task. Their attempt in solving a problem together by collecting or pooling each other's knowledge is termed as "collective scaffolding".

Studies related to collaborative activities in L1 settings (Higgins, Flower, & Petraglia, 1992; Keys, 1994) showed that working collaboratively helps develop reflective thinking, particularly when learners explain and defend ideas to their partner or peers, which can in turn, lead to learning. According to van Lier (1996), students can also learn from teaching others, as it requires them to construct their own knowledge clearer before explaining their understanding to their peers (Allwright, 1984). This can be illuminated by the notion of "exploratory talk" conceptualized by Wegerif & Mercer (1996) and Mercer (2000) that dialogues between peers show their critical thinking ability as they "engage critically and constructively with each other's ideas" through the act of asking questions, expressing opinions, agreeing or disagreeing, and giving suggestions (Mercer, 2000, p.98). To Wegerif and Mercer, this type of talk is productive.

In a regular classroom, it is quite normal to see a teacher dominating the class by explaining facts to her students. However, from the view of social constructivism, it is suggested that the roles of teacher explaining should be decreased. Instead of being the one always speaking, teachers should ask reasoning or thoughtful questions, encourage students to elaborate their thoughts, ask "why" questions to draw out reasons, and provide chance for them to utter their understanding (Mercer & Litteton, 2007).

As stated above, the problems of logical connectors in ELLs seem to be one of the grammatical issues that English teachers should not ignore. Most LCs studies investigated the problems, and not many seem to offer a solution. Thus, with the intention to ease the problem, alternative methods and material such as inductive instructions and paper-based concordance are examined in this study. For the best possible outcome, the researcher also adopted the notion of collaborative learning from social constructivism to encourage learners to learn interactively with their peers as well

as teacher. Therefore, the current study aimed to compare the two teaching methods (inductive and deductive) in teaching logical connectors to low proficiency learners as well as explore their opinions towards the usefulness of paper-based concordance. Pattern of interactions during knowledge co-construction process was also examined, and the last purpose was to investigate the successfulness of knowledge co-construction in learning logical connectors.

2. RESEARCH QUESTIONS

- 2.1** Are there any differences between the learning outcomes of deductive teaching group and inductive teaching group after 15 weeks of instructions?
- 2.2** How do the participants perceive the usefulness of paper-based concordance?
- 2.3** What patterns of interaction can be found in DDL activities among novices of English language?
- 2.4** Does the knowledge co-construction lead to successful learning of logical connector? If yes, how?

3. RESEARCH METHODOLOGY

3.1 Subjects of the study

Students from two intact groups who enrolled in an “Introduction to English Writing” course were the participants of this study. They were 3rd and 4th year students aged 21-22 years old from different faculties, namely science, engineering and management science. Initially, one group consisted of 30 students, and the other 34 students. After taking a placement test, only 20 from the first group and 27 from the second group totaling 47 were chosen as the participants because their proficiency was classified to be at the elementary to pre-intermediate level. Thirteen of them were male and 34 were female. Group one was assigned as inductive group, and group two was assigned as deductive group. None of them had any experience in DDL or paper-based concordance prior to the study.

3.2 Research instruments

The seven research instruments of this study include an online placement test, a vocabulary assessment form, grammar revision handouts, concordance training handouts, logical connector handouts, paper-based concordance, and exercise worksheets. Of all seven instruments, three were for the inductive group, namely concordance training handouts, paper-based concordance, and exercise worksheets. For the deductive group, only one instrument was used, that is, logical connector handouts. The other three instruments (i.e., the online placement test, vocabulary assessment form, and grammar revision handouts) were used with both groups in the preliminary stage.

3.2.1 Research instruments for preliminary stage

3.2.1.1 Placement test

A free online placement test was used to judge learners' proficiency (www.hse.ru/data/917/332/1228/tests%20of%20english.doc, 2016). The test contained 100 multiple choice gap-filling items focusing mainly on grammar. The test was one hour long. The criteria are as follows: 0-20 points = below elementary, 21-35 points = elementary, 36-60 points = pre-intermediate, 61-85 points = intermediate, 86-100 = upper intermediate (see Appendix A).

3.2.1.2 Vocabulary assessment form

Vocabulary assessment form was used in selecting the ten target connectors which were the ten most unknown LCs out of 30 uncommon LCs provided in the form. It was a four-scale questionnaire asking learners to assess their current LC knowledge ranging from "I have never heard or seen this word before." to "I know this word and I am sure I can use it correctly." The form was adapted from the Vocabulary Self-assessment Scale of Honigsfeld and Dodge (2016), and the scales were translated into Thai (see Appendix B). The results of the form revealed that, of all the ten target LCs, six were subordinating conjunctions (in order to, whereas, due to, despite, instead of, and as well as) and four were transitions (in fact, as a result, in contrast, and nevertheless). However, the other 20 LCs were later taught together with the ten target connectors, as it was necessary to have more than one LC as choices to create exercises.

3.2.2 Research instruments for pre-experimental stage

3.2.2.1 Grammar revision handouts

The handouts were for reviewing basic grammatical aspects necessary for LC learning. In total, there were three grammar revision handouts. Each contained grammatical explanation, examples and exercises. The contents of the three handouts were about how to identify noun, verb, adjective, verb phrase, noun phrase, adjective clause, and noun clause (see Appendix C). The revision took seven sessions.

3.2.2.2 Concordance training handouts

These handouts were for familiarizing participants of the inductive group with concordance lines in KWIC format. The handouts were designed identically to the actual paper-based concordance that was used in the experimental stage. In other words, they contained 21 sentence samples in KWIC format of three uncommon LCs and exercises (see Appendix D). In total, three handouts were used for three training sessions.

3.2.3 Research instruments for experimental stage

3.2.3.1 Logical connector handouts

The handouts were used as teaching materials for the deductive group only. In total, there were ten sets of LCs in ten handouts. Each set consisted of detailed explanations and exercises related to three LCs (i.e., two uncommon LCs and one target LC). The two uncommon LCs were chosen randomly from the ones in vocabulary assessment form, as it was necessary to teach more than one LC so that there could be other choices for answers in the exercise. The explanations were in L1 concerning its grammatical usage along with three sentence samples for each connector. Exercises were constructed using the same sentence samples that were presented in paper-based concordance of the inductive group. They contained 10-15 items (see Appendix E).

3.2.3.2 Paper-based concordance

Paper-based concordance was used as teaching materials with the inductive group. One page of the concordance printouts contained the same set of the

three LCs that were in the logical connector handout. Each consisted of seven pre-selected concordance lines of each LC presenting in KWIC format, totaling 21, which were selected from online dictionaries corpora and online corpora from www.lex Tutor.ca (e.g., Graded Readers, Brown). The concordance lines were simplified to suit learners' proficiency. Unlike truncated sentence samples of many online concordancers, the sentence samples in this study were single complete sentences listed in tables as shown in Appendix F.

3.2.3.3 Exercise worksheets

Two exercise worksheets were used in the interaction and induction phases of the inductive group. Worksheet 1 contained seven questions with choices serving as a tool to guide learners to induce correct meaning of LCs. The questions were about logical relationship of the surrounding clauses, punctuation marks associated with the LC, positions of the LC, types of the adjacent messages (phrase or clause), and L1 equivalent (see Appendix G). Worksheet 2 contained an exercise of 6-10 items and was made into ten worksheets for ten sets of LCs. Tasks such as gap-filling, error correction and sentence linking were also included (see Appendix H). Both worksheets were planned to be completed within 30 minutes.

3.3 Data collection instruments

3.3.1.1 Pretest and posttest

As the participants of this study were 3rd and 4th year students who may need to take the Test of English for International Communication (TOEIC) after their graduation, the test items in the pretest and posttest were constructed based on TOEIC test format of part V "Incomplete Sentences", that is, gap-filling items with four choices. The test consisted of 30 items related to the ten target connectors. The stems were adapted from online dictionary corpora. The subject matter of the test items was also similar to the ones in TOEIC (see Appendix I). Both pre and posttest were identical. To calculate the reliability of the tests, the pretest scores of both groups including those whose proficiency was higher than intermediate level were computed. The result revealed Cronbach's alpha of 0.75.

3.3.1.2 Stimulated recall interview

To explore opinions of the participants from the inductive group towards the usefulness of paper-based concordance, stimulated recall interviews were conducted in Thai using paper-based concordance, Worksheets 1 and 2 as the stimulators. Participants of the inductive group were interviewed in pairs for 20-30 minutes. The examples of the questions were: Was KWIC format useful in learning the connectors? If so, how? What was the first thing you did when you got the concordance printouts? and How did you choose the sentence samples to translate?

3.3.1.3 Audio recorders

An audio recorder program was used to record participants' interactions from the beginning to the end of every LC teaching. The lessons took place in a computer room where each computer has its own headphone with a microphone attached. To eliminate distractions, the participants of the inductive group were asked to wear the headphone at all time so that their discussions were recorded.

3.4 Data collection procedure

The study was carried out for one semester. The two-hour class met twice a week. However, the teacher researcher was responsible for teaching LCs for the last 30 minutes. The total number of experimental sessions was 25 periods. The research procedures were divided into four stages as follows:

In the preliminary stage, a free online English placement test was administered for one hour. After taking the test, the participants were required to respond to the vocabulary assessment form.

The pre-experimental stage consisted of three parts: pre-test, grammar revision, and the concordance training. Firstly, the participants took a pre-test lasting 45 minutes. Then, in the following seven sessions, the researcher reviewed necessary grammatical items. The concordance training was three sessions long.

The experimental stage comprised 12 sessions. For the deductive group, the researcher used the deductive teaching approach throughout the treatment by explicitly explained all rules and meanings of the target LCs in L1. After individual participants

completed the exercises, the researcher provided answers and detailed explanation, and participants were allowed to take the handouts home. The teaching approach for the inductive group, on the other hand, was more student-centered following the 4Is instruction. The participants were asked to work in pairs throughout the entire experimental periods.

For each set of LC learning, in the illustration phase, participants were required to observe the structures of sentence samples, and then discuss in interaction phase to complete Worksheet 1. After that, in the induction phase, they collaboratively induced the meaning of the target LCs to complete the exercises on Worksheet 2. At the same time, the researcher intervened but only when she noticed that the participants were struggling with inducing meaning of LCs. This intervention phase was optional. When the participants finished doing the exercises, the researcher provided answers by explaining the usage and the meaning of the LCs. All the handouts and worksheets of this group were collected by the researcher for analysis.

In the last stage, post-experimental, all the participants took immediate posttest for 45 minutes. Subsequently, two weeks after that, stimulated recall interviews were conducted. Only six pairs of participants who took part in most of the learning sessions with different gain scores were interviewed.

3.5 Data analysis

To answer all research questions, the data obtained from the pretests and posttests, the interviews and the dialogues were analyzed using both quantitative and qualitative methods.

Research question 1: Are there any differences between the learning outcomes of deductive teaching group and inductive teaching group after 15 weeks of instructions?

Due to the small size of participants from both groups, it was necessary to test the normality of the distribution of pretest scores before employing independent T-test which was used to find out whether the participants are in the same level of proficiency or not. To answer the first research question, mean scores of pre and posttest of both groups were calculated to identify the extent of LC knowledge improvement after the

instructions. Paired T-test was employed in computing the significant difference of the scores for both within group and between group comparisons. Effect size in comparing both posttest scores was also calculated.

Research question 2: How do the participants' perceive the usefulness of paper-based concordance?

To answer the second research question, content analysis was used in analyzing the data obtained from stimulated recall interviews. Opinions related to the usefulness of paper-based concordance in learning LCs were gathered, and presented.

Research question 3: What patterns of interaction can be found in DDL activities among novices of English language?

To answer research question 3, the researcher transcribed the dialogues emerging in the class. Transcripts containing 1,298 utterances of five pairs of the participants who attended more than 80% of the course were analyzed using coding protocol. Instead of adopting predetermined codes from other researchers or labelling categories to impose them on the obtained data, the researcher randomly selected nine transcripts out of 50 transcripts (5 pairs × 10 tasks) of different pairs and different LC sets to read and reread. While reading, the researcher made notes on salient features to find the common pattern relating to the participants' interactions and their learning process. The second coder also read and reread the same sets of transcripts to arrive at an agreement about the features. After several clarifications and changes, patterns of interactions emerged from the final analysis, and were labelled: TRANSLATING, ELICITING, REQUESTING HELP FROM TEACHER, EXPLORING, and DISCOVERING OF MEANING. The detailed characteristics and examples of each phase can be seen in the following paragraphs (see Table 1 on p.14).

The first code or phase, TRANSLATING, contained dialogues showing that the participants tried to interpret the surrounding contexts of LCs by reading the chosen concordance line, and trying to get the overall meaning in Thai. In the following excerpt, meaning was proposed in lines 3-5. The discussions taken from the class were mainly in Thai (English translation was provided in italics).

- 1 T: (Participant reading a concordance line) **Instead of** turning south on
 2 Green Bay for Lake Bluff, I went on the Sheridan road and turned left.
 3 P: *Instead of going south of Green Bay here? But actually we* (แทนที่จะไปทาง
 4 ใต้หรือของ Green Bay ตรงนี้ แต่ว่าจริงๆแล้วเรา)
 5 T: *We turned left.* (เราไปเลี้ยวซ้าย)

The second code is ELICITING, the phase which participants discussed with their partners to get meaning of unknown words in the concordance line to move on in solving a task. The consultation may or may not result in the form of a question. In other words, it could also be in the form of incomplete statements. An example of ELICITING can be seen in line 2-3 of the excerpt below, as *T* was trying to find out the meaning of a word from *P* in order to understand the surrounding context of the connector “*as a result of*”.

- 1 T: (Participant reading a concordance line) He was strong and healthy **as a**
 2 **result of** the strict training he did every morning. *Does strict mean*
 3 *intense?* (Strict นิเข้มขันไหม)
 4 P: *Strict means tough.* (Strict ก็คือเข้มงวด)
 5 T: *Oh. Yes, tough. Strict training.* (เข้มงวดเออ มีกอย่างเข้มงวด)

Third, all questions and statements addressing help directly to a teacher in order to overcome difficulties were labelled in the third code as REQUESTING HELP FROM TEACHER. The role of the teacher in this phase is to provide hints, prompt questions, or explanations to the inconclusive issues among learners. An example of a participant requesting help can be seen in lines 1-3 of the excerpt below.

- 1 W: *Teacher. In contrast and In contrast to have the same meaning,*
 2 *right? But it depends whether or not you want to include the*
 3 *word to? Is it like that or there are other rules?* (อาจารย์ครับ In
 4 contrast กับ In contrast to นี่คือความหมายเดียวกันแต่อยู่ที่ว่าจะใส่ to หรือไม่
 5 ใส่ to ก็ได้ไหมครับหรือว่ายังไง)
 6 Teacher: *They have the same meaning but they are used differently. You*
 7 *can have a look. See what comes after in contrast and in contrast*
 8 *to?* (ความหมายเดียวกันแต่วิธีใช้ต่างกัน ลองสังเกตสิ in contrast กับ in
 9 contrast to คำตามด้วยอะไร)

- 10 W: *Noun.* (Noun ครับอาจารย์)
 11 Teacher: *That's right a noun or phrase. What about in contrast?* (ถูกต้องค่ะ
 12 นามหรือกลุ่มคำนาม แล้วถ้า **in contrast** อย่างเดียวละ)
 13 W: *Sentence.* (เป็นประโยค)
 14 Teacher: *Yes, so they are used differently.* (นั่นแหละค่ะวิธีใช้ที่ต่างกัน)

The fourth code, EXPLORING, includes all interactive or argumentative conversations that were about meaning of a word or phrase, logical relationship between clauses, rejection or acceptance of an equivalence. In this phase, participants expressed their intention to take a stand or exchange thoughts from their point of view. Dialogues in EXPLORING often contain explanation, opinion, question, and expression of agreement or disagreement. The excerpt below shows two participants (*N* and *A*) were discussing the meaning of the word *canned*. The sentence being discussed was “Canned food is expensive. **In contrast**, fresh food is a lot cheaper.” *A* suggested *N* that the definition of *canned* might be cancer (line2). Knowing that the definition was wrong, *N* rejected the proposed meaning and offered the correct word for cancer in English (line 3).

- 1 N: *Let's look at this one. What is canned?* (นี่เอาอันนี้ได้ canned คืออะไรอะ)
 2 A: *Cancer? Cancer food* (มะเร็งไหมอะ อาหารที่เป็นมะเร็ง)
 3 N: *No, that's cancer.* (อันนั้นมัน cancer)
 4 A: *Oh!* (อ่าวหรือ)

In the last phase, DISCOVERING OF MEANING, is the phase in which both participants came to the final conclusion of inducing L1 equivalent of the target LCs using their intuition to logically guessed the meaning of the LCs after understanding the concordance lines. An example of DISCOVERING OF MEANING of the target LC “in contrast” can be seen in line 2 of the excerpt below. *A* proposed a Thai equivalent immediately after being able to translate the whole concordance line. The sentence being discussed was “Life in New York is very fast; **in contrast**, life in India is more relaxing.”

- 1 A: *It says life in New York proceeds quickly but life in India is more chill,*
 2 *relaxed. In contrast.* (เค้าบอกว่าการใช้ชีวิตอยู่ในนิวยอร์กนั้น ใช้ชีวิตได้อย่างรวดเร็ว แต่
 3 ถ้าชีวิตในอินเดียมัน เรื่อยๆ แบบผ่อนคลาย ในทางตรงกันข้าม)
 4 N: *Yeah, could be.* (เออก็เป็นไปได้เนะ)

Table 1 Coding schemes based on participants' learning process

| Phase | Definition | Indicator and Raw data |
|-------------|--|--|
| TRANSLATING | Conversation in attempting to interpret the concordance line as a whole or the surrounding contexts of a connector | Indicator <ul style="list-style-type: none"> - Statements indicating that a sentence or phrase is being read - Statements indicating that L1 meanings are being proposed |
| | | Example <p>T: (Participant reading a concordance line) Instead of turning south on Green Bay for Lake Bluff, I went on the Sheridan road and turned left.</p> <p>P: <i>Instead of going south of Green Bay here? But actually we</i> (แทนที่จะไปทางใต้หรือของ Green Bay ตรงนี้ แต่ว่าจริงๆ แล้วเรา)</p> <p>T: <i>We turned left.</i> (เราไปเลี้ยวซ้าย)</p> |
| ELICITING | Drawing out definition of unknown words | Indicator <ul style="list-style-type: none"> - Statement asking for meaning of words - Yes/No questions - Incomplete statements |
| | | Example <p>T: (Participant reading a concordance line) He was strong and healthy as a result of the strict training he did every morning. <i>Does strict mean intense?</i> (Strict นี่เข้มข้นไหม)</p> <p>P: <i>Strict means tough.</i> (Strict ก็คือเข้มงวด)</p> <p>T: <i>Oh. Yes, tough. Strict training.</i> (เข้มงวดเออ ผิดอย่างเข้มงวด)</p> |

REQUESTING HELP FROM TEACHER

Addressing help to a teacher

Indicator

- Questions or statements requesting help directly to the teacher

Example

W: Teacher. In contrast and In contrast to have the same meaning, right? But it depends whether or not you want to include the word to? Is it like that or there are other rules? (อาจารย์ครับ In contrast กับ In contrast to นี่คือความหมายเดียวกันแต่อยู่ที่ว่าจะใส่ to หรือไม่ใส่ to ก็ได้ไหมครับหรือว่ายังไง)

Teacher: They have same meaning but they are used differently. You can have a look. See what comes after in contrast and in contrast to? (ความหมายเดียวกันแต่วิธีใช้ต่างกัน ลองสังเกตสิ in contrast กับ in contrast to คำตามด้วยอะไร)

W: Noun. (Noun ครับอาจารย์)

Teacher: That's right a noun or phrase. What about in contrast? (ถูกต้องค่ะ นามหรือกลุ่มคำนาม แล้วถ้า in contrast อย่างเดียวล่ะ)

W: Sentence. (เป็นประโยค)

Teacher: Yes, so they are used differently. (นั่นแหละค่ะจะวิธีใช้ที่ต่างกัน)

EXPLORING

Conversations in attempting to take a stand or exchanging thoughts from their point of view. They often concern meaning of words or concordance lines, logical relationship between clauses, and whether the proposed equivalents are acceptable.

Indicator

- Explanation related to a word or sentence being discussed
- Threads of conversation indicating different opinions or conflicting issues
- Yes/No questions
- Expression of agreement and disagreement

Example

N: *Let's look at this one. What is canned?* (นี่เอาอันนี้ก็ได้ canned คืออะไรอะ)

A: *Cancer? Cancer food* (มะเร็งไหมอะ อาหารที่เป็นมะเร็ง)

N: *No, that's cancer.* (อันนั้นมัน cancer)

A: *Oh!* (อ่าวหรือ)

| | | |
|-------------------------------|--|---|
| DISCOVERING OF MEANING | Using intuition to find and choose L1 equivalent | <p>Indicator</p> <ul style="list-style-type: none"> - Mentions of Thai connectors after discussing or interpreting meaning of the sample sentences <p>Example</p> <p>A: It says life in New York proceeds quickly but life in India is more chill, relaxed.</p> <p>In contrast. (เค้าบอกว่าการใช้ชีวิตอยู่ในนิวยอร์กนั้น ใช้ชีวิตได้อย่างรวดเร็ว แต่ถ้าชีวิตในอินเดียมัน เรื่อยๆแบบผ่อนคลาย ในทางตรงกันข้าม)</p> <p>N: Yes, could be. (เขาก็เป็นไปได้นะ)</p> |
|-------------------------------|--|---|

Research question 4: Does the knowledge co-construction lead to successful learning of logical connector? If yes, how?

To answer the last research question, each code was counted and calculated in percentage. Detailed analysis was conducted on the last two phases (EXPLORING and DISCOVERING OF MEANING) by categorizing the discussions into subtopics. For example, discussions of EXPLORING phase were categorized into four subcategories which are logical relationship of surrounding clauses, meaning of words, phrase, or sentences, L1 equivalence, and other. For another phase, DISCOVERING OF MEANING, the subcategories are cause and effect, and contrast. The correct and incorrect discussions were counted and calculated in percentage to investigate successfulness of knowledge co-construction taking place in their collaborative discussions.

4. FINDINGS AND DISCUSSION

4.1 Effects of deductive and inductive teaching

The results in Table 2 showed that the pretest scores of both groups were not different ($t=1.778$, $p=0.082$) indicating that the participants had the same level of proficiency. Posttest scores were used to compute between group and within group comparison. For within group comparison, the results of Paired t-test showed significant increases in the posttest scores of both groups. That is, the score of the

inductive group increased from 9.65 in the pretest to 14.50 in the posttest with 4.85 of scores difference ($t=6.922$, $p=0.01$). Likewise, the score of the deductive group increased from 8.22 in the pretest to 14.11 in the posttest with 5.89 of scores difference ($t=7.450$, $p=0.01$).

For comparisons between the groups, the difference of posttest scores were not significant ($t=0.309$, $p=0.76$) with small effect size (Cohen's $d = .092$). The gain score of the deductive group (27.04%) was slightly higher when compared to the inductive group (23.83%). The results suggested that paper-based concordance instruction was as effective as deductive instruction.

Table 2 Comparison of test scores between inductive and deductive groups using t-test

| Test | Inductive (n=20) | | Deductive (n=27) | | Independent t-test | | | Effect size (Cohen's d) |
|--------------------------|------------------|------|------------------|------|--------------------|----|-------|----------------------------------|
| | Mean | S.D. | Mean | S.D. | t | df | p | |
| Pre | 9.65 | 2.41 | 8.22 | 2.93 | 1.778 | 45 | 0.082 | |
| Post | 14.50 | 4.7 | 14.11 | 3.91 | 0.309 | 45 | 0.76 | 0.092 |
| Gains (Post-Pre) | 4.85 | 3.13 | 5.89 | 4.11 | 0.945 | 45 | 0.35 | |
| Paired t-test | t=6.922, p=0.01 | | t=7.450, p=0.01 | | | | | |
| Relative Gains Score (%) | 23.83 | | 27.04 | | | | | |

Table 3 summarizes the five most problematic LCs of both deductive and inductive groups. Thirty test items were used in testing ten target LCs. In other words, one LC was tested through three gap-filling items. To find the top five problematic LCs, incorrect items of each connector were counted. To be more specific, if at least two out of the three gap-filling items of one LC were wrong, the connector was, then, considered problematic. The results revealed the five most problematic LCs of the inductive group. Five were connective prepositions i.e., *despite* (15), *due to* (11), *in order to* (11), *as well as* (10), *instead of* (10) and two were transitions i.e., *nevertheless* (14) and *in fact* (13).

Similarly, out of the five problematic LCs of the deductive group, three were connective prepositions i.e., *despite* (23), *as well as* (16), and *instead of* (16). One was subordinating conjunctions i.e., *whereas* (14), and the other three were transitions i.e., *in fact* (18), *nevertheless* (18), and *as a result* (15).

Of all LCs listed, three were found to be the common mistakes among the two groups. One of them was a connective preposition, *despite*, and the other two were transitions, namely *in fact*, and *nevertheless*.

Table 3 The top five most problematic LCs found in the posttests of both inductive and deductive groups

| Inductive group | | | Deductive group | | |
|-----------------|--------------------------|----------------------------|-----------------|-------------------------------|----------------------------|
| Rank | Logical Connector | No. of participants (n=20) | Rank | Logical Connector | No. of participants (n=27) |
| 1 | Despite | 15 | 1 | Despite | 23 |
| 2 | Nevertheless | 14 | 2 | In fact Nevertheless | 18 |
| 3 | In fact | 13 | 3 | Instead of As well as | 16 |
| 4 | Due to In order to | 11 | 4 | In contrast As a result of | 15 |
| 5 | As well as Instead of | 10 | 5 | Whereas | 14 |

From the data available, Table 4 shows the number of participants of the inductive group making mistakes in all exercises. It can be seen that *in fact* (7), *despite* (7), *instead of* (8), and *in contrast* (6) were found to be problematic as well when compared to other LCs in the previous classes during the experiment.

Table 4 Frequent mistakes in the exercises made by the inductive group

| Rank | Logical connector | No. of participants making mistakes in the exercises (n=20) |
|------|-------------------|---|
| 1 | Due to | 2 |
| 2 | In fact | 7 |
| 3 | Despite | 7 |
| | Nevertheless | 4 |
| 4 | Instead of | 8 |
| 5 | In contrast | 6 |

4.2 Participants' opinions towards the usefulness of paper-based concordance in learning logical connectors

Regarding the usefulness of paper-based concordance lines, the results of stimulated recall interviews showed that KWIC format in the concordance was helpful in increasing LC knowledge. They allowed learners to see more examples than when they studied grammar through traditional methods. The variety of the sentence samples helped broaden their knowledge in terms of sentence patterns as to whether the LCs can be followed by a phrase or a clause and that some of them can be placed in three different ways (i.e., sentence-initial, medial, and final position). These points can be seen in the following excerpts:

I could see many examples. Normally, I don't see this many when learning one word... Now I know the connectors can be used in many ways.

(Pattharawadee*, interviewed on the 30th November 2016)

It was quite easy to notice different positions of each connector and their punctuation marks.

(Rattapong*, interviewed on the 1st December 2016)

The structure was clearer to see with this format... It was very useful. Usually I'm not aware of the types of messages in front of the connector. Whether they are phrases or clauses, I never notice them... This format was quite easy to find subjects and verbs in the surrounding clauses too.

(Teeraphat*, interviewed on the 30th November 2016)

Learners also reported that having many sentence samples in their hands helped them induce LCs' meaning better. In other words, they can rely on their intuition to decide L1 meaning of each LC. In addition, they were able to refer to an easier concordance line when they could not translate the more difficult ones. These points can be seen in the following excerpts:

*Pseudonyms

I think it's good to have many sentences. They were helpful when we were not sure of the Thai equivalence of a connector... We can compare several Thai words for one connector and see how they sound...

(Anticha* , interviewed on the 9th December 2016)

If there was only one example per connector, and we cannot understand the meaning of the sentence; then, that would be the end of the story... Seeing one connector in one position makes us think that that is the only way of using connector... Because our background knowledge is poor, we wouldn't know that a connector can be placed in other positions.

(Pongpob* , interviewed on the 28th November 2016)

4.3 Patterns of interaction emerging in the non-expert ELLs classroom

4.3.1 Process of co-construction of knowledge and the five learning phases

Figure 1 shows the detailed pattern of co-construction process emerged during the experiment of the current study. When the participants noticed and realized that they did not know the connector being shown in the concordance, the surrounding contexts seemed to play an important role in inducing the LC meaning. The first phase, TRANSLATING, began when learners chose and tackled a concordance line. In the process of interpreting a sentence sample, Thai meaning were being proposed. Participants helped each other co-construct meaning of contexts that surrounded the LC. If the participants could not interpret the contexts, they would try to figure out the problematic word or phrase by pooling their knowledge together to overcome the difficulties. Participants often asked their partner about the unknown words or grammatical issues that could help them understand the concordance lines better. This peer consultation is a part of the second phase, ELICITING, as it required participants to use their background knowledge in solving such task. If the help from peers was not offered or was not helpful, participants would ask for help from the teacher in the third

* Pseudonyms

phase REQUESTING HELP FROM TEACHER. However, most of them often abandoned and skipped to choose a new concordance line and redo the previous phases again. On the other hand, if the help was useful, the participants together with their partners would continue to figure out more about the LC. They would discuss the correct meaning of the surrounding contexts, logical relationship of the surrounding clauses, or possible L1 equivalents. This process is a part of EXPLORING phase, as participants had equal chance to interact by exchanging or expressing thoughts to arrive at an agreement. In the last phase, DISCOVERING OF MEANING, participants used their intuition to choose only one L1 equivalent. Further discussion of a new concordance line could take place for those who were unsure of the selected LC meaning or those who disagree with their partners. In contrast, if they were able to understand the contexts from the beginning, they would proceed straight to use their intuition to select L1 equivalent. However, such incidence was a lot less frequent when compared to its counterpart.

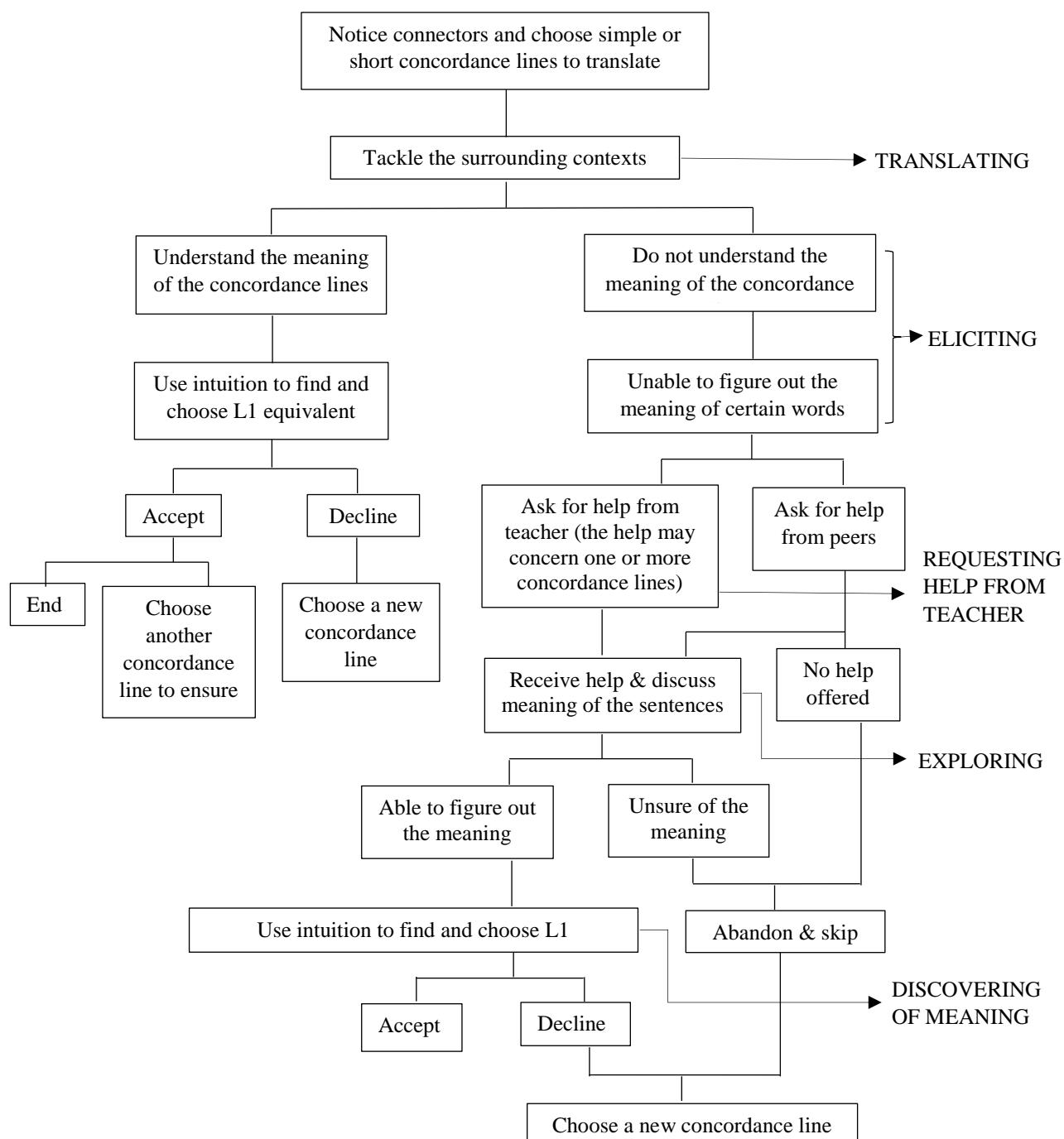


Figure 1 Process of co-construction of knowledge and the five learning phases

4.3.2 Frequencies of the five learning phases

The frequency of each phase was summarized in Figure 2. Among the five, the top three most frequent phases were ELICITING (33%), DISCOVERING OF MEANING (30%) and EXPLORING (23%). The frequency of the third phase,

REQUESTING HELP FROM TEACHER, was the lowest (3%). The result suggested that the participants spend a large amount of time working collaboratively on their own, and relied less on teacher.

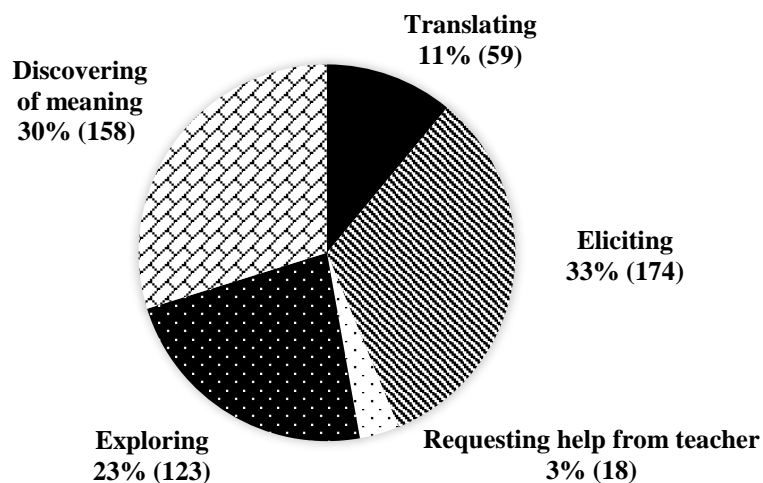


Figure 2 Percentage and frequency of the five learning phase

4.4 The successfulness of knowledge co-construction

To examine the quality of participants' interaction, detailed analyses of the last two phases, namely EXPLORING and DISCOVERING OF MEANING were conducted quantitatively. Table 5 shows topics emerging from the discussions and two types of the target LCs. Of all topics, participants devoted their time to figure out L1 equivalent of target LCs the most (39.8%), and over half of them were correct (59.2%). Meanings of unknown words or phrases, and overall meanings of sentence samples were the second-frequent topic for discussion (32.5%), and about over half of them were correct (57.5%). By comparison, participants spent less time discussing logical relationship of clauses (26.1%). However, the results revealed that the percentage of correct understanding was the highest (84.4%).

For DISCOVERING OF MEANING, it is apparent that participants were able to induce L1 meaning of LCs showing cause and effect relationship better than contrasting (80% and 52.5%, respectively). The overall results indicate that participants successfully worked out logical relationship of cause and effect better than showing their vocabulary knowledge.

Table 5 Detailed analysis of **Exploring** and **Discovering of meaning** phases

| Phase | Total | | Correct | | Incorrect | |
|---|-------|------|---------|------|-----------|------|
| | n | % | n | % | n | % |
| Exploring | | | | | | |
| - Logical relationship of surrounding clauses | 32 | 26.1 | 27 | 84.4 | 5 | 15.6 |
| - Meaning of words, phrases, or sentences | 40 | 32.5 | 23 | 57.5 | 17 | 42.5 |
| - L1 equivalence | 49 | 39.8 | 29 | 59.2 | 20 | 40.8 |
| - Other | 2 | 1.6 | 2 | 100 | - | - |
| Total | 123 | 100 | 81 | 65.9 | 42 | 34.1 |
| Discovering of meaning | | | | | | |
| - Cause and effect (2) | 45 | 28.5 | 36 | 80 | 9 | 20 |
| - Contrast (7) | 99 | 62.6 | 52 | 52.5 | 47 | 47.5 |
| - Addition (1) | 14 | 8.9 | 10 | 71.4 | 4 | 28.6 |
| Total | 158 | 100 | 98 | 62 | 60 | 38 |

4.5 Discussion on the findings

From the findings above, it can be concluded that the ability in using LCs of both groups improved significantly after the treatment. This indicates that inductive instruction and deductive instruction were equally effective. The LCs that were found to be problematic for the inductive group are *due to*, *nevertheless*, *instead of*, *in fact*, *despite*, and *in contrast*. The findings of this study are in accordance with the study of Boulton (2010) who found that paper-based concordance instruction is as effective as deductive methods for French learners. Moreover, based on content analysis of the transcripts, ten participants spent a larger amount of time discussing among themselves rather than seeking help from the teacher. The overall pattern of learners' interaction was collaborative; that is, they seemingly played symmetrical role in contributing ideas to achieve the task assigned. Their collaborative discussions consisted of both dyad interactions and self-consultations (private speech), as there were times when learners talk or ask themselves questions without inviting their partner to engage. Students' interaction involved explanations, requests, and suggestions.

According to Kirschner, Sweller and Clark (2006), a purely inductive approach is not suitable for DDL beginners with low proficiency because they have insufficient background knowledge to draw on (Kirschner et al., 2006) or otherwise they draw faulty

conclusions (Boulton, 2010). There are four possible reasons to explain why the participants in both groups demonstrated similar learning outcomes. First, the deductive group was already familiar with deductive teaching. That is, teachers explicitly explain each grammatical item point by point along with few examples, and ask students to do grammatical exercises. The inductive group, on the other hand, might not be familiar with inductive instruction because Thai students, like students in many Asian countries, have been used to deductive teaching (Nonkukhetkhong et al., 2006; Yoon & Hirvela, 2004). In this study, the participants in the inductive group were required to carry out language tasks, corpus-based activities, which were totally new to them. Moreover, they were allowed to consult the teacher only when encountering difficulties.

Second, paper-based teaching materials were also novel to the learners. This could be difficult for any learners who have been used to deductive instruction regardless of their proficiency. Therefore, being exposed to new teaching methods and materials simultaneously would even be more difficult for low proficiency learners. As argued by Boulton (2010), even in perfect learning conditions, it is unreasonable for low proficiency learners to better understand the lessons taught by inductive method than in a traditional classroom setting.

Another reason could be the adoption of intervention phase as optional. Proposed by Flowerdew (2009), intervention should be done to provide hints to learners so that their problems are eliminated. It goes without saying that low proficiency learners need more help from teachers. In this study the teacher intervened only when learners asked, where in fact they might have needed more teacher attention particularly when they induced meaning or usage of LCs incorrectly.

Although it was suggested by Whistle (1999) and Allan (2006) that corpus-based lessons should not last longer than 30 minutes because it might result in boredom. In this study, the participants were low proficiency learners and they had only 30 minutes to learn new language items from paper-based concordance. According to Cobb (1999), concordance is more suitable for learners to broaden their linguistic repertoire rather than establishing new knowledge.

Looking closely at the mistakes in the posttest, it can be seen that over half of the underused LCs were categorized under contrast (i.e., *in fact*, *despite*, *in contrast*,

nevertheless, and *instead of*). This problem was also found in the exercises. A plausible explanation for this is that it is quite uncommon among learners to be able to make sense of adversative statements because they appear too complicated. Altenberg and Tapper (1998), Granger and Tyson (1996), and Lei (2012) also found these adversative LCs underused in their studies.

Despite paper-based concordance being problematic, it was found beneficial to a certain degree. A conclusion that could be drawn from the stimulated recall interviews was that KWIC format helped LCs become more noticeable to learners. Most of them reported that the bold-faced LCs of the concordance lines attracted their attention first, resulting in the ability to induce LCs' meanings. It also helped them gain more grammatical knowledge because students were exposed to more examples than what they learned in deductive teaching. The result of this study was supported by Levy (1990) who maintained that providing multiple examples could help broaden learners' linguistic experience. In Boulton's study (2010), participants found concordance useful because concrete examples helped them gain intuitive knowledge about grammatical usage and vocabulary.

Students' interactions in this study involved explanations, requests, and suggestions. These types of interaction were also found in several studies (Donato, 1994; Swain, 2000; Wengerif & Mercer, 1996). It can be argued that their learning process was productive as it involved a critical thinking process. To produce such interactions, the participants went through cognitive processes such as noticing and hypothesizing which enabled them to solve problems or build knowledge. In this case the problems are related to logic of the adjacent clauses and meaning of LC word which were constructed through logical discussions as exemplified in the excerpt below. The task is for the students to find the correct L1 equivalent of "nevertheless". The sentences being discussed were "He was born with one leg but **nevertheless** became a great athlete in his teens" and "The dogs are guarded around the house, but robberies occur **nevertheless**". Both learners, *P* and *T*, were able to collaboratively figure out the logical relationship without having much difficulty even though *P* seems to be more dominant, as she was the one who offered hypotheses and convinced *T* to agree with her. When looking at the roles of *T*, he seems to verbalize less than *P*. However, he actively

responded to a suggestion of *P* by starting reading the sentence sample immediately (line 11) and supplied the right definition of the word “robbery” in line 14. *T* also generated what Vygotsky (1986) called private speech in line 4 to guide himself to understand the sentence sample better. Throughout the conversation, he expressed agreement to *P* suggestions i.e. in line 8 concerning the logic of clauses and line 17 concerning the choice of lexis.

- 1 *P*: *So it's like having the competence, right? Something like that? Become*
 2 *this become disabled person* (ก็คือ ก็เหมือนมีความสามารถใหม่ ประมาณนั้นใหม่
 3 กลายเป็น อันนี้ก็กลายเป็น คนพิการ)
 4 *T*: *Become sportsperson athlete* (เป็นนักกีฬา athlete)
 5 *P*: *Yeah. So it's opposite, right? Contrast? Even though he was born with*
 6 *one leg something like that* (ก็คือว่านั่นแหละ ก็คือตรงข้ามใหม่ ขัดแย้งใหม่ ถึงแม้ว่าจะ
 7 เกิดมามีขาข้างเดียวอะไรอย่างเงี้ย)
 8 *T*: *Yeah. It should be contrast.* (ใช่ น่าจะขัดแย้งนะ)
 9 *P*: *But nevertheless? What about sentence number 6? (But* อย่างไรก็ตามหรือ ดู
 10 อันที่ 6 ใหม่)
 11 *T*: *The dogs what? (The dogs อะไร)*
 12 *P*: *Are guards guarding around the house but robberies. What is it? (เป็น*
 13 *การ์ด รักษารอบๆ บ้าน but robberies คืออะไรอะ)*
 14 *T*: *Burglar* (โจร)
 15 *P*: *But nevertheless burglars can still get in. Nevertheless* (แต่อย่างไรก็ตามโจร
 16 *ก็ยังเข้ามาได้อะ อย่างไรก็ตาม)*
 17 *T*: *Yeah* (อืม)

Transcripts of the present study showed that learners were able to produce collective scaffolding to each other particularly when figuring out logical relationships of the surrounding clauses. However, with regard to linguistics ability, several discussions led to incorrect L1 equivalence of LCs. Learners seem to struggle to understand the meaning of sentence samples due to the lack of vocabulary knowledge. In the following excerpt, learners (*N* and *A*) were trying to figure out the meaning of “in contrast”. They began by interpreting a sentence sample, and at the same time,

equally take turns to express ideas. The sentence being discussed was “Canned food is expensive. **In contrast**, fresh food is a lot cheaper”. In the beginning of the conversation (lines 1-2), both of them tried to figure out what *canned* means, and eventually gave up and moved on to figure out the rest of the sentence (line 5). A seems to perceive the word *fresh* as clean (line 8) leading them to more confusion. It can be seen that, without knowing the meaning of the vocabulary (i.e., *canned* and *fresh*) learners still collaborate actively.

- 1 N: *Let's look at this one. What is canned?* (นี่เอาอันนี้ก็ได้ canned คืออะไรอะ)
- 2 A: *Cancer? Cancer food* (มะเร็งใหม่อะ อาหารที่เป็นมะเร็ง)
- 3 N: *No, that's cancer.* (อันนั้นมัน cancer)
- 4 A: *Oh really.* (อ่าวหรอ)
- 5 N: *Cancer cancer Canned food is expensive. This food is expensive, and*
- 6 *then the food that* (Cancer มะเร็ง canned food มันแพงๆอะ อาหารเนี่ยมันแพง แล้วก็
- 7 อาหารที่)
- 8 A: *Clean* (สะอาด)
- 9 N: *Clean. It's cheap. What is it?* (สะอาด มันถูก อะไรเนี่ย)

A closer look at their interaction reveals that exploratory talk seems to appear throughout their discussions, and participants were able to successfully scaffold each other to arrive at the correct logical relationship. However, there were several times when the participants failed to interpret meaning of the whole concordance line. It shows that their learning process should not be confined to figuring out for L1 meaning among themselves. In other words, they still need guidance from the more-able i.e., teacher in this case.

Looking at the percentage of the phase, REQUESTING HELP FROM TEACHER, what emerged from a deeper analysis is the low percentage of the occurrence suggesting that the participants did not ask for help very often. However, when asked the teacher managed to ask a series of questions to provide scaffolding. The excerpt below illustrates the flow of dialogues to show teacher's role during her intervention. *PI* and *T* asked for help in finding out the meaning of the LC “due to” in the sample sentence “**Due to** many serious complaints of customers, the new manager lost his job.” It can be seen that the teacher used dialogue to provide scaffolding to

arrive at the meaning of the connector “due to” (lines 6-8, 11-12). She helped the students to understand and co-construct meaning of the surrounding contexts by translating. Without the translation, *PI* and *T* might not be able to figure out the meaning of such connector, as it was a necessary process leading to discovering meaning of L1. Moreover, the teacher provided guidance by asking question in line 15 to help them see the relationship of the clauses in order to scope down the possibility of the correct meaning of LC in Thai. The participants eventually arrived at the correct meaning in line 26, and *PI* wanted to confirm her friend's answer by beginning to translate another sentence (line 33) which was “The problems on her files might be **due to** computer virus.” With the imprecise translation from *PI*, the teacher interrupted to correct her translation (line 35) and further clarified each point by asking questions (lines 36, 39). Eventually, one of the participants could grasp the overall logical concept of the lesson (line 44).

- 1 *PI*: *Teacher, we don't know how to make sense of the first word? We*
 2 *tried to translate it already, but we couldn't.* (อาจารย์คะ คำแรกเนี่ย
 3 มันจะไปในทิศทางไหน คือเราแปลแล้วแต่ว่าแปลไม่ออก)
- 4 Teacher: *OK. Which one do you want to translate?* (อะ อยากแปลอันไหน)
- 5 *T*: *Um... This one. Number 6.* (เอ่อ ข้อนี้ครับ ข้อ 6)
- 6 Teacher: *Number 6. Bla Bla Bla many serious complaints. Complaints*
 7 *means unsatisfactory remarks, so there were many serious*
 8 *complaints from...?* (ข้อ 6 จุคๆ many serious complaints
 9 complaint แปลว่าคำบ่นคำตำหนิ มีคำบ่นแบบจริงจังมากมายมาจาก?)
- 10 *T*: *From the customers.* (จากลูกค้า)
- 11 Teacher: *The new manager lost his job, the new manager was then*
 12 *unemployed.* (The new manager lost his job ผู้จัดการคนใหม่ก็เลยตก
 13 งาน)
- 14 *T*: *All right* (อ้อ)
- 15 Teacher: *What's the logical relationship here?* (ความสัมพันธ์เป็นยังไงคะ)
- 16 *T*: *Supporting* (สอดคล้องกัน)
- 17 Teacher: *Yes, supporting. But...* (สอดคล้องกัน ใช่ แต่)
- 18 *PI*: *Cause and effect.* (เป็นเหตุเป็นผล)

- 19 Teacher: *Cause and effect, right? Because the complaints caused him to?*
 20 (เป็นเหตุเป็นผลกันถูกไหม เพราะว่ามีคน **complain** จิง...?)
- 21 PI: *Lose his job.* (ตกงาน)
- 22 Teacher: *Correct, probably because once this guy became the manager,*
 23 *people complained and it caused him to be unemployed. What*
 24 *about other sentences? Are they the same? (ใช่ค่ะ อาจจะเพราะคนนี้*
 25 *บริหารปั๊บมีแต่คนบ่น ก็เลยตกงาน อันอื่นเป็นแบบนี้ไหม)*
- 26 T: *Due to* (เนื่องจาก)
- 27 Teacher: *Try to read and see if it confirms what we are thinking. What did*
 28 *you just say? (ลองอ่านดูว่ามันคอนเฟิร์มสิ่งที่เราคิดไว้ป่าว แปลว่าอะไรนะคะเมื่อ*
 29 *ก็)*
- 30 T: *Due to* (เนื่องจาก)
- 31 Teacher: *Due to? Due to many complaints from people, the new manager*
 32 *was unemployed.* (เนื่องจาก เนื่องจากมีคนบ่นมากมายผู้จัดการก็เลยตกงาน)
- 33 PI: *Then, number 4 means her computer her computer has problems.*
 34 (อันที่ 4 ก็แปลว่าแบบ คอมเธออะ คอมของเธอมีปัญหา)
- 35 Teacher: *Her files. There are problems with her files which might... What*
 36 *was your translation again? (ไฟล์ของเธอเนี่ย มีปัญหาเกิดขึ้นกับไฟล์ของ*
 37 *หล่อน ซึ่งอาจจะ เมื่อก็แปลว่าอะไรนะ)*
- 38 T: *Due to* (เนื่องจาก)
- 39 Teacher: *Due to computer virus, correct? (เนื่องมาจากคอมพิวเตอร์ไวรัส ถูกไหม*
 40 *คะ)*
- 41 PI: *The computer has virus.* (คอมพิวเตอร์มีไวรัส)
- 42 Teacher: *Yes, that's why her files have the problems.* (ใช่ค่ะ ไฟล์ของเธอก็เลยมี
 43 *ปัญหา)*
- 44 T: *If we translate sentence number 3, it would sound more OK.* (นี่
 45 *ถ้าเป็นประโยคที่ 3 ก็น่าจะฟังดูโอเคกว่านะครับ)*
- 46 Teacher: *Yes, it's easier. OK. Congratulations! You found the answer.* (ใช่
 47 *ค่ะ ง่ายกว่า โอเคค่ะดีใจด้วย หาคำตอบได้แล้ว)*

5. CONCLUSION AND RECOMMENDATIONS

In conclusion, the present study shows that inductive instruction is as effective as deductive instruction, and to certain extent, paper-based concordance, particularly sentence samples was found to be helpful in learning logical connectors in terms of sentence patterns and positions of LCs. Pair work also allowed learners to interact with each other and co-construct new knowledge through exchanges of ideas, expressions of agreement and disagreement, elicitations, discussions and reasoning.

The following pedagogical implications can be offered:

1) In teaching low-proficiency learners, class duration should be extended longer than 30 minutes so that they can fully make use of the time in discussing.

2) The teacher should intervene more often. In other words, the teacher should provide explanation after each exercise is completed so that the students know if the induced meaning was correct or not before moving on to the next exercise.

3) When choosing sentence samples from certain corpus, some corpus such as Graded Readers might contain easier vocabulary and grammatical structure, but it is highly contextualized. Therefore, for low proficiency learners, concordance lines should not require too much background knowledge.

4) It might be a good idea to ask learners to change partners after working with the same partners for a period of time as learners can learn different ways of thinking from a new partner.

As the participants of both inductive and deductive were below 30, which is considered statistically small, the findings of the current study are suggestions rather than generalization. For future research, it may be interesting to increase the sample size and further examine the effect of employing paper-based concordance using deductive teaching approach for low proficiency learners. It is recommended to carry out experimental research which compares the effectiveness of using paper-based concordance to teach LCs using deductive methods and using traditional materials to teach LCs using deductive method.

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APPENDICES

- 16 It is a busy, _____ city.
a) traffic b) quite c) noisy
- 17 They _____ at home yesterday.
a) was b) are c) were
- 18 I _____ there for a long time.
a) lived b) living c) live
- 19 He didn't _____ glasses.
a) put b) wear c) take
- 20 The restaurant was _____ busy.
a) very b) a lot c) many
- 21 Do you like the red _____ ?
a) it b) that c) one
- 22 He _____ to Brazil on business.
a) go b) goed c) went
- 23 Yesterday was the _____ of April.
a) third b) three c) day three
- 24 She's got _____ hair.
a) dark, long b) long and dark c) dark, long
- 25 I _____ play football at the weekend.
a) usually b) use c) usual
- 26 I _____ in an armchair at the moment.
a) sitting b) 'm sitting c) sit
- 27 My brother is older _____ me.
a) then b) that c) than
- 28 Their car is _____ biggest on the road.
a) than b) this c) the
- 29 It's the _____ interesting of his films.
a) more b) much c) most
- 30 The phone's ringing: _____ answer it.
a) I'll b) I c) will
- 31 Do you _____ classical or rock music?
a) rather b) prefer c) more
- 32 He has _____ breakfast.
a) ate b) eaten c) eat
- 33 The _____ have seen it before.
a) childs b) child c) children
- 34 I've never met an actor _____ .
a) before b) already c) after

- 35 _____ is very good exercise.
 a) Swim b) To swim c) Swimming
- 36 Have you _____ been on a winter sports holiday?
 a) always b) ever c) soon
- 37 I can't _____ another language.
 a) speaking b) speak c) to speak
- 38 They _____ pay for the tickets.
 a) haven't to b) don't have c) don't have to
- 39 _____ old is their car?
 a) What b) When c) How
- 40 Are you _____ for one or two weeks?
 a) staying b) stayed c) stay
- 41 Stephen _____ to visit his parents.
 a) will b) going c) is going
- 42 I don't _____ getting up early.
 a) not like b) want c) enjoy
- 43 We _____ like to see the mountains.
 a) would b) will c) are
- 44 They _____ ever check their emails.
 a) hard b) harder c) hardly
- 45 They won't come, _____ they?
 a) won't b) come c) will
- 46 He _____ know how to spell it.
 a) doesn't b) hasn't c) don't
- 47 Carla _____ to the radio all morning.
 a) listening b) heard c) listened
- 48 They _____ come to the cinema with us.
 a) doesn't b) not c) didn't
- 49 I like this song. _____ do I.
 a) Either b) So c) Neither
- 50 We _____ them at eight o'clock.
 a) meet b) 're meet c) 're meeting

PART B

- 51 They are going _____ in America next month.
 a) to be b) will be c) be d) being
- 52 This is the cinema _____ we saw the film.
 a) when b) which c) that d) where

- 53 Have you ever _____ in a jazz band?
 a) seen b) played c) listened d) wanted
- 54 I'm _____ when I'm with you.
 a) happier b) happier than c) happier d) the happy
- 55 This is _____ than I thought.
 a) bad b) badder c) worse d) worst
- 56 Can you tell me the way _____ ?
 a) to the bank b) is the bank c) where is bank d) of the bank
- 57 Do you know what _____ ?
 a) time is it b) time is c) time is now d) time it is
- 58 Were you _____ to open the door?
 a) could b) can c) able d) possible
- 59 Everybody _____ wear a seat belt in the car.
 a) must b) mustn't c) don't have to d) doesn't have to
- 60 Tom has lived in this town _____ three years.
 a) since b) from c) after d) for
- 61 We _____ work in that factory.
 a) use to b) was c) used to d) then
- 62 I think it _____ be sunny tomorrow.
 a) will probably b) probably c) can d) will to
- 63 He _____ like his brother.
 a) look b) isn't c) isn't look d) can look
- 64 _____ does your boyfriend look like?
 a) How b) What c) Why d) Which
- 65 I've got _____ many problems.
 a) too b) a c) enough d) really
- 66 If we get up in time, _____ catch the train.
 a) we catch b) we caught c) we had caught d) we'll catch
- 67 They _____ to go to France for a year.
 a) decide b) deciding c) decided d) to decide
- 68 I'm working _____ to pass my exam.
 a) hardly b) much c) hard d) good
- 69 I'm writing _____ ask you to explain.
 a) for b) in order to c) because d) because of
- 70 He said that most problems _____ by teenagers.
 a) cause b) caused c) were caused d) were causing

- 71 What _____ to do at the weekend?
 a) have you like b) are you liking c) do you like d) is you like
- 72 Football _____ in most countries.
 a) plays b) players c) is played d) is playing
- 73 Who was _____ the door?
 a) at b) on c) in d) of
- 74 We _____ lunch when you telephoned.
 a) was having b) had c) were having d) are having
- 75 Your work is _____ better.
 a) being b) doing c) getting d) falling
- 76 She could play the piano _____ she could walk.
 a) during b) while c) as well d) before
- 77 The train was cancelled, so we _____ .
 a) couldn't go b) wasn't go c) didn't went d) mustn't go
- 78 The problem was _____ solved
 a) easy b) easy to c) an easy d) easily
- 79 It was a difficult journey, but I _____ get home.
 a) could b) managed to c) at last d) was
- 80 We had not _____ heard the news.
 a) already b) always c) yet d) today
- 81 We arrived at the station, but the bus _____ earlier.
 a) has left b) had leave c) has leave d) had left
- 82 We can _____ walk or go by car.
 a) both b) rather c) either d) neither
- 83 If I _____ enough money, I'd buy a new car.
 a) had b) would c) did d) shall
- 84 It _____ correctly.
 a) hasn't done b) hasn't been done c) hasn't been do d) not been done
- 85 The accident wouldn't have happened, if you had been more _____ .
 a) careful b) carefully c) careless d) caring
- 86 It _____ be possible some time in the future.
 a) can b) hope c) may d) is
- 87 Schools then _____ having more children in the class.
 a) was used to b) were used to c) was use to d) were use to
- 88 We _____ to go to work at six in the morning.
 a) must b) would c) had d) did

- 89 They _____ an old photograph of the place.
 a) came up b) came across c) came into d) came after
- 90 I _____ I had been able to meet her.
 a) hope b) want c) think d) wish
- 91 We'll have taken our exams _____ this time next month.
 a) by b) on c) during d) for
- 92 I will do badly in my work, _____ try harder.
 a) if I'm not b) if I wasn't c) if I haven't d) if I don't
- 93 I _____ wasted my time when I was at university.
 a) regret b) shouldn't c) ought not to d) shouldn't have
- 94 This is going to be my chance to _____ any difficulties.
 a) repair b) sort out c) solve d) improve
- 95 It was difficult at first, but I soon got _____ it.
 a) got used to b) get used to c) changed to d) used to
- 96 How did you manage to cook _____ a good meal?
 a) so b) that c) absolutely d) such
- 97 The solution had been found, _____ we hadn't realised it.
 a) however b) therefore c) although d) even
- 98 She _____ I had been doing for all that time.
 a) asked to me b) asked for me c) asked with me d) asked me
- 99 They _____ heard us coming, we were making a lot of noise.
 a) must have b) must c) might d) could
- 100 He _____ to help me with the decorating.
 a) suggested b) offered c) invited d) told

APPENDIX B
Vocabulary Assessment Form

| คำเชื่อม | ข้าพเจ้าไม่เคยได้ยินหรือเห็นคำนี้มาก่อน | ข้าพเจ้าเคยได้ยินหรือเห็นคำนี้แต่ไม่รู้ความหมายของมัน | ข้าพเจ้ารู้ความหมายของคำนี้แต่ไม่รู้หลักการที่ใช้ | ข้าพเจ้ารู้จักคำนี้และแน่ใจว่าใช้ถูก |
|-------------------|---|---|---|--------------------------------------|
| 1. Due to | | | | |
| 2. Instead of | | | | |
| 3. In spite of | | | | |
| 4. Owing to | | | | |
| 5. Apart from | | | | |
| 6. If | | | | |
| 7. Whether | | | | |
| 8. Otherwise | | | | |
| 9. Nevertheless | | | | |
| 10. Accordingly | | | | |
| 11. Unless | | | | |
| 12. In fact | | | | |
| 13. For instance | | | | |
| 14. So that | | | | |
| 15. As well as | | | | |
| 16. Neither...nor | | | | |
| 17. Either...or | | | | |
| 18. Namely | | | | |
| 19. Whereas | | | | |
| 20. Because of | | | | |
| 21. Despite | | | | |
| 22. As a result | | | | |
| 23. In contrast | | | | |

| คำเชื่อม | ข้าพเจ้าไม่เคยได้ ยินหรือเห็นคำนี้มา ก่อน | ข้าพเจ้าเคยได้ยิน หรือเห็นคำนี้แต่ ไม่รู้ความหมาย ของมัน | ข้าพเจ้ารู้ ความหมายของคำ นี้แต่ไม่รู้หลักการ ใช้ | ข้าพเจ้ารู้จักคำนี้ และแน่ใจว่าใช้ถูก |
|------------------------|---|---|--|--|
| 24. As | | | | |
| 25. In order to | | | | |
| 26. Once | | | | |
| 27. Eventually | | | | |
| 28. On the contrary | | | | |
| 29. As if | | | | |
| 30. Thus | | | | |

APPENDIX C

Grammar Revision Handouts

1. Noun and Noun Phrase

Determiner คือ คำนำหน้านาม ซึ่งทำหน้าที่กำกับนาม หรือช่วยชี้บทบาทของคำนามนั้น ๆ ในประโยค ให้ชัดเจนยิ่งขึ้น โดยมี 6 ประเภทหลักดังนี้

1. Article หรือคำนำหน้านาม a, an, the
2. Possessive adjective หรือคำแสดงความเป็นเจ้าของ my, your, his, her, our, their, its
3. Demonstrative adjective หรือคำคุณศัพท์ชี้เฉพาะ this, that, these, those
4. Quantifier หรือคำแสดงปริมาณ one, two, all, several, a few, a little, some, any, many, much, a lot of, every, none of, each, both, most, a number of, too much, too many, another, other etc.

Gerund คือคำกริยาที่ตามด้วย ing หรือ v.ing และทำหน้าที่เหมือนคำนาม เช่น

- ทำหน้าที่เป็นประธานของประโยค เช่น
 - Playing football is his favorite activity.
 - Eating healthy food is good for you.
 - Singing English songs is not easy.
 - Drink-driving has caused many tragic deaths.
- ทำหน้าที่เป็นกรรมของคำกริยาในประโยค เช่น
 - She enjoys taking selfie.
 - He doesn't like living in Bangkok.
 - I've just finished writing letters.
 - Jim loves walking and mountain-climbing.
- ทำหน้าที่เป็นกรรมของคำบุพบท(preposition)ในประโยค เช่น
 - She is afraid of being alone in the dark.
 - He began by explaining the importance of AEC.

- I'm looking forward to going out with you.
- You're good at drawing.
- ทำหน้าที่เป็นภาคเติมเต็มของประโยคที่อธิบายเกี่ยวกับตัวประธาน โดยมักจะตามหลัง verb to be เช่น
 - Looking at another player's cards is cheating.
 - His favorite activity is playing golf.
 - The only thing that interests her is dancing.
 - The secret behind her beauty is eating healthily.

แบบฝึกหัด จงเลือกวลีที่อยู่ในตารางไปเติมในช่องว่างตามเงื่อนไขด้านล่างให้ถูกต้องพร้อมขีดเส้นใต้
คำนามในวลี

| | | |
|-----------------------|--------------------------|---------------------------|
| Each game | This funny cat | Many fun stories |
| Driving at night | An unusual situation | Her younger brothers |
| Their classroom | The sky | A story |
| Some food | My expensive watch | A private jet |
| That big apartment | All of his fast cars | Her sister |
| An airplane | An airplane | His team |
| The crying child | Most people | Four American women |
| His new phone | One of my favorite story | Those white shoes |
| Living in dark houses | Five different stories | Both of her black dresses |

1. คำนำหน้านาม + noun

.....

.....

.....

2. คำนำหน้านาม + adjective (คำขยายนาม) + noun

.....

.....

.....

3. คำบอกปริมาณ + noun

.....

.....

.....

4. คำบอกปริมาณ + adjective + noun

.....

.....

.....

5. คำแสดงความเป็นเจ้าของ + noun

.....

.....

.....

6. คำแสดงความเป็นเจ้าของ + adjective + noun

.....

.....

.....

7. คำคุณศัพท์ที่เฉพาะ + adjective + noun

.....

.....

.....

8. คำบอกปริมาณ + คำแสดงความเป็นเจ้าของ + noun

.....

.....

.....

9. คำบอกปริมาณ + คำแสดงความเป็นเจ้าของ + adjective + noun

.....
.....
.....

10. Gerund

.....
.....
.....

2. Adjective Clause

Adjective Clause คือ อนุประโยค (เช่น **that he bought, where they study, who lives next door**) ที่ทำหน้าที่เป็นเหมือนคุณศัพท์ (Adjective) ขยายนามหรือแสดงลักษณะของคำนามหรือคำสรรพนาม ปกติแล้ว Adjective Clause จะเชื่อมด้วย Relative Pronouns ซึ่งได้แก่คำว่า **who** (ใช้กับคน), **which** (ใช้กับสิ่งของ), **that** (ใช้กับทั้งคนและสิ่งของ), **whose** (แสดงความเป็นเจ้าของ), **where** (ใช้กับสถานที่) และ **when** (ใช้กับเวลา) โดยคำเหล่านี้มีความหมายเทียบเท่ากับคำว่า **ซึ่ง... หรือ ที่...** ในภาษาไทย

การละ Relative pronoun ใน Adjective clause

1. กรณีที่คำนามที่ถูกขยายทำหน้าที่เป็นกรรมในประโยค เช่น

| | | |
|---|---|---|
| The car that he bought is very expensive. | ➔ | The car he bought is very expensive. |
| The school where they study is the best in town. | ➔ | The school they study is the best in town. |
| The woman who he loves is his boss's daughter. | ➔ | The woman he loves is his boss's daughter. |

2. กรณีที่ประธานกระทำกริยานั้น (active relative clause) ให้ตัด relative pronoun ออก แล้วเปลี่ยน verb ให้เป็น present participle (V+ing) เช่น

| | | |
|--|---|---|
| She told me about the man who lives next door . | ➔ | She told me about the man living next door . |
| Do you see the cat which is lying on the roof? | ➔ | Do you see the cat lying on the roof? |
| The students who visited the national museum were very excited. | ➔ | The students visiting the national museum were very excited. |
| Strawberries which are grown in California are delicious. | ➔ | Strawberries grown in California are delicious. |

3. กรณีที่ประธานถูกกระทำ (passive relative clause) ให้เราตัด relative pronoun ออกเหมือนเดิม แล้วเปลี่ยน verb ให้เป็น past participle (V3) เช่น

The man **who was attacked** last night is in the hospital.



The man **attacked** last night is in the hospital.

The money **which was lost** during the trip was returned to its owner.



The money **lost** during the trip was returned to its owner.

แบบฝึกหัด จงระบุข้อความส่วนที่ถูกลดรูปไปให้ถูกต้อง

1. The woman I met is my friend's sister.

The woman I met --> The woman who I met.....

2. Do you remember the day we first met?

.....

3. She is the woman I saw last week.

.....

4. The house they sell is near the airport.

.....

5. A piece of land he rented is in the country.

.....

6. The used car my sister has bought is very cheap.

.....

7. That ship is the one my dad builds.

.....

8. I like the music you are listening to.

.....

9. The school they study is the best in town.

.....

10. Put that book into the place where it belongs to.

.....

3. Verb and Verb Phrase

Verb คือ คำกริยาที่แสดงอาการ การกระทำ หรือบอกสภาพของประธานของประโยค คำกริยาเป็นส่วนสำคัญของประโยค หากขาดคำกริยาไป คำ หรือกลุ่มคำนั้นจะไม่ถือเป็นประโยค

Verb suffixes

| | | | | |
|------------|----------|-----------|--------|----------|
| -ate | estimate | | | |
| -ify | | | | classify |
| -ise, -ize | | apologize | | |
| -en | | | loosen | |

ประเภทของคำกริยา

1. **Main verb** หรือ กริยาแท้ จะถูกแบ่งออกเป็นสองประเภทหลักได้แก่
 - 1.1 กริยาที่ต้องการกรรม (Transitive verb) เช่น bring, send, eat, make, buy, show, take, wash เป็นต้น
 - Jenna brings Mrs. Smith lunch every day.
 - We eat fruit before a meal.
 - 1.2 กริยาที่ไม่ต้องการกรรม (Intransitive verb) เช่น come, laugh, sit, cry, smile, fly, run, cough, go เป็นต้น
 - Alan always swims with his sons.
 - Many birds fly south for the winter.
2. **Auxiliary (or Helping) verb** หรือ กริยาช่วย ใช้ประกอบกริยาแท้ ได้แก่
 - 2.1 Have (have, has, had)
 - Jerry **has bought** a new shirt to replace the old one.
 - You **have woken up** everyone in the neighborhood.
 - 2.2 Be (is, am, are, was, were, be, been)
 - Jenny **is leaving** to work now.
 - Sam **is jogging** in the park.

2.3 Do (do, does, did)

- John **didn't put** his coffee in a cup with a lid.
- Sara **doesn't** always **forget** things, but it happens a lot.

3. Modal verb หรือ กริยาช่วยที่ไม่เปลี่ยนรูปและมีความหมายในตัวของมัน ได้แก่คำว่า can, could, shall, should, will, would, may, might, must, ought to และ need

3.1 Can และ could ใช้บอกความสามารถ การขออนุญาตและความเป็นไปได้

- Tom **can write** poetry very well.
- **Could** I talk to your supervisor please?
- When I was a child I **could climb** trees.
- You **can catch** that train at 10:43.

3.2 May และ might ใช้กับการขออนุญาตที่ค่อนข้างเป็นทางการ ความเป็นไปได้และการแนะนำ

- You **may start** your exam now.
- **May** I have your email?
- Adam and Sue **may not buy** that house. It's very expensive.
- You **might like** to try the salmon. It's our special today.

3.3 Shall และ should ใช้กับการเสนอความช่วยเหลือ การให้คำปรึกษาและการคาดการณ์

- **Shall** we go for a walk?
- **Should** I call a doctor?
- I **shouldn't be** late. The train usually arrives on time.
- You **should check** that document before you send it out.

3.4 Must, have to และ need to

- ใช้ **must** เมื่อแน่ใจ 100% เช่น Thomas has lived in Paris for years. His French **must be** very good.
- ใช้เมื่อต้องการโน้มน้าว เช่น You **have to** visit us while you're in town.
- ใช้ในกรณีห้าม เช่น You **mustn't** leave medicines where children can get to them.

- ใช้ในกรณีแสดงถึงความจำเป็น เช่น I **need to** earn some money for my family.
และไม่จำเป็น เช่น Tim **doesn't have to** go to school today. It's a holiday.

3.5 Will และ would ใช้ในการขออนุญาต การร้องขอและการพูดถึงสิ่งที่ทำเป็นประจำในอดีต

- Will you please **take** the trash out?
- I **would like** to sign up for your workshop.
- Peter **wouldn't eat** broccoli when he was a kid

Verb phrase

Verb phrase (กริยาวลี) ประกอบไปด้วยกริยาช่วยที่นำหน้าคำกริยาหลัก โดยทำหน้าที่เป็นภาคแสดงของประโยค
เช่น

- You **can catch** that train at 10:43.
- You **may start** your exam now.
- You **should check** that document before you send it out.
- I **would like** to sign up for your workshop.

ในบางกรณี verb phrase สามารถพบเจอได้จากการเขียนโดยใช้ tense ต่างๆ โดยมีกริยาช่วยประเภท will/would, be, do และ have นำหน้า เช่น

- He's **studying** Spanish and German. He's **not studying** French. (Present continuous)
- I **have lived** in this town for 12 years. (Present perfect)
- He **has been sleeping** for the last 3 hours. (Present perfect continuous)
- He **was reading** a newspaper while his wife **was preparing** dinner. (Past continuous)
- It **will probably rain** tonight. (Future simple)

แบบฝึกหัด จงขีดเส้นใต้คำกริยาช่วยและวงคำกริยาหลักของประโยคต่อไปนี้พร้อมทำเครื่องหมาย ✓ หากภาคแสดงถือเป็นกริยาวลี

1. ✓ Sharif was (cooking) his dinner.
2. Cole was sending an email to his parents.
3. I have thanked them for their help.

4. I usually go to the cinema at weekends.
5. I didn't have lunch with Mrs. Robinson yesterday.
6. She never puts milk in her tea.
7. They've been staying in this hotel for ten days.
8. I will be thirty years old next year.
9. You always know the answer.
10. Water is liquid at room temperature.
11. Profits should increase next year.
12. They might give us a 10% discount.

APPENDIX D

Concordance training handouts 1

Owing to

| | |
|----|---|
| 1. | The train was very slow, owing to the construction delays. |
| 2. | His face was flushed but the company did not notice owing to the darkness of the room. |
| 3. | He found that they would have to endure an unexpected delay, owing to a late-arriving train. |
| 4. | She could not see his face, owing to the mask that he wore. |
| 5. | His accident occurred owing to the fact that he was talking on his cell phone. |
| 6. | Owing to the rising cost of fuel, more people are using public transport. |
| 7. | Owing to a lack of funds, the project will not continue next year. |

For instance

| | |
|----|--|
| 1. | Can you tell us a little about your background? For instance , where were you born? |
| 2. | We need to rethink the way we consume energy. Take, for instance , our approach to transport. |
| 3. | Japan is full of beautiful cities. Kyoto and Nara, for instance . |
| 4. | I like learning new things. For instance , last month I took ballet course. |
| 5. | I can play quite a few musical instruments, for instance , the flute, the guitar and the piano. |
| 6. | Some birds, penguins and ostrich for instance , cannot fly at all. |
| 7. | I want to go abroad, for instance , to Italy and Spain. |

In spite of

| | |
|----|---|
| 1. | The deputy chief added that in spite of the recent snowfall, the ground is very dry. |
| 2. | She loves doing it and considers it an honor in spite of not having much free time. |
| 3. | I didn't get the job in spite of having the necessary qualifications. |
| 4. | He was very fast in spite of being terribly overweight. |
| 5. | I've known plenty of people who've decided not to get married in spite of the fact that they were having children. |
| 6. | In spite of the fact that he worked very hard, he didn't manage to pass the exam. |
| 7. | In spite of the pain in his leg, he completed the marathon. |

แบบฝึกหัด จงเติมคำเชื่อมให้ถูกต้อง

For instance

Owing to

In spite of

1. He was suddenly cold _____ the sun
2. _____ the rain, the football has been cancelled.
3. The labor market continued to adjust to the imbalance _____ rapid growth in labor supply and low labor demand.
4. Most sales promotions run for a short time, _____, for five or seven days.
5. Mobile devices are becoming less expensive. Sophisticated smartphones, _____, can now be purchased for less than \$100.
6. Kelly loved her husband _____ the fact that he drank too much.
7. The economy of Europe is expected to improve _____ growth in the tourism business.
8. _____ his injury, Ricardo will play in Saturday's match.
9. Old English was in many ways similar to Modern German. _____, the nouns, adjectives, and verbs were highly inflected.

Concordance training handouts 2

Accordingly

| | |
|----|---|
| 1. | The campaign manager wanted to find out how people felt. Accordingly , he took an opinion poll of the locals. |
| 2. | There aren't many jobs available. Accordingly , companies receive hundreds of resumés for every opening. |
| 3. | No formal complaint was made; accordingly , the police took no action. |
| 4. | The contract was not in final form, and, accordingly , we are able to negotiate with our business partners. |
| 5. | This is an extremely emotional time for me. Accordingly , I will not be making any further comment at this time. |
| 6. | I was told this story repeatedly throughout my life, and accordingly , I believed it. |
| 7. | That old book is worthless; accordingly , it should be thrown away. |

As

| | |
|----|---|
| 1. | Jessica requested the game be played before Christmas instead of January 8 as students will be on holiday. |
| 2. | There are concerns for her as she was ill before she vanished. |
| 3. | James decided not to go out as he was still really tired. |
| 4. | We asked Philip to come with us, as he knew the road. |
| 5. | Enjoy the first hour of the day. This is important as it sets the mood for the rest of the day. |
| 6. | As everybody is going to be free this Friday's evening, we should arrange the meeting then. |
| 7. | As you are leaving last, please turn out the lights. |

So that

| | |
|----|--|
| 1. | Why don't you start out early so that you don't have to hurry? |
| 2. | They whisper to each other so that no one else can hear. |
| 3. | I'll get a map so that we can plan where we're going. |
| 4. | The window was covered so that it was not possible to see inside. |
| 5. | She's studying English at night school so that she can work during the day. |
| 6. | I am saving money so that I can buy a new car. |
| 7. | We are recording your speaking test so that you can listen to it later. |

แบบฝึกหัด ประโยคดังต่อไปนี้ใช้คำเชื่อมถูกต้องหรือไม่ หากใช้ผิดควรแก้ไขอย่างไร

1. I went to bed early **so that** I was tired. ถูก ผิด

2. **As** they live near us, we see them quite often. ถูก ผิด

3. He walked quietly **as** nobody could hear him. ถูก ผิด

4. We stopped talking **so that** we could hear the music. ถูก ผิด

5. Natasha was mentally ill; **accordingly**, she needed to stop working. ถูก ผิด

6. Many employees want their working hours to be reduced. **As** many companies have switched to a five-hour office work per day. ถูก ผิด

Concordance training handouts 3

Apart from

| | |
|----|---|
| 1. | _____ Long distance phone calls, apart from being expensive, weren't always reliable. |
| 2. | The actor opens up about the qualities that a father should teach his children apart from other life skills. |
| 3. | Apart from rice, Tom and his wife <u>also</u> grow daffodils, produce wheat, potatoes, sugar beet and herbs. |
| 4. | Apart from the vocal lessons, the school does another project called musical theatre groups. |
| 5. | Apart from supplying vegetables to the community, the garden could <u>also</u> be used for teaching workshops. |
| 6. | Apart from damaging the crops, the rainfall <u>also</u> appears to have spoilt the quality of green vegetables |
| 7. | Apart from its Facebook page, the airport has a presence on platforms such as Twitter, Instagram and LinkedIn. |

Namely

| | |
|----|---|
| 1. | _____ Employees also receive full social benefits, namely insurance and health coverage. |
| 2. | There's always one person stuck with cleaning up the mess, namely me. |
| 3. | The scene showed off his best qualities, namely his quick moves and perfect timing. |
| 4. | _____ We should ask some teachers, namely the math and science department heads. |
| 5. | They also moved to different regions within Thailand, namely Chiangmai and Phuket. |
| 6. | _____ Ancient Egypt was divided into two regions, namely Upper Egypt and Lower Egypt. |
| 7. | _____ Three students were mentioned, namely John, Sarah and Sylvia. |

Consequently

| | |
|----|---|
| 1. | Most users have never received any formal keyboard training. Consequently , their keyboard skills are inefficient. |
| 2. | _____ Taxes were lowered, and consequently complaints were fewer. |
| 3. | I spent most of my money in the first week and consequently had very little to eat by the end of the holiday. |
| 4. | _____ All the shops were closed, and consequently we couldn't buy any food. |
| 5. | The company is trying to reduce its costs; consequently , staff who leave are not being replaced. |
| 6. | _____ It rained heavily, and consequently the baseball game was called off. |
| 7. | The book has no narrator or main character. Consequently , it is quite hard to understand the plot. |

แบบฝึกหัด จงเลือกคำเชื่อมที่ดีที่สุดเพื่อเติมช่องว่าง

1. Some groups of people, _____ elders and teenagers, will benefit from the new tax.
 - a) namely
 - b) consequently
 - c) apart from
2. The conference went quite well, _____ the first five minutes where they didn't switch on my microphone.
 - a) namely
 - b) apart from
 - c) consequently
3. She is always moody, and _____ doesn't have many friends.
 - a) namely
 - b) apart from
 - c) consequently
4. The whole world seemed to be sleeping, _____ Barbara and Jack.
 - a) namely
 - b) apart from
 - c) consequently
5. There's only one man who can win my heart, _____ Mr. Steve Rogers.
 - a) namely
 - b) apart from
 - c) consequently
6. His explanation was full of difficult words. _____, nobody understood it at all!
 - a) namely
 - b) apart from
 - c) consequently

APPENDIX E

Logical connector handout (Set 1)

In order to = เพื่อที่จะ

คำเชื่อมนี้ใช้เชื่อมข้อความเพื่อบอกจุดประสงค์ ซึ่งข้อความที่ตามมาต้องเป็นคำกริยาในรูปปกติ (v.1) ไม่เติม -s, -es, -ing หรือ -ed คำเชื่อมอาจใช้ขึ้นต้นประโยคหรือกลางประโยคก็ได้ หากอยู่ต้นประโยคต้องมีเครื่องหมาย comma คั่นใจความส่วนแรก เช่น

- In order to identify if the rice is real or fake, you should boil it.
- He came home early in order to see his children before they all went to bed.
- Users must set up an online account in order to view, save and print documents.

Unless = ถ้า...ไม่

คำเชื่อมนี้ใช้เชื่อมข้อความเพื่อบอกเงื่อนไข โดยข้อความหลังคำเชื่อมต้องเป็นประโยคเท่านั้น และสามารถอยู่ได้ทั้งต้นและกลางประโยค หากตั้งอยู่ต้นประโยคต้องมีเครื่องหมาย comma คั่นใจความส่วนแรก เช่น

- Unless the weather improves, we will have to cancel the football match.
- Don't use smartphones during class unless you get my permission.
- You can't play a computer game unless you finish your homework.

Otherwise = ไม่อย่างนั้น มิฉะนั้น

คำเชื่อมนี้ใช้เชื่อมเพื่อบอกผลที่อาจเกิดขึ้น สามารถใช้ได้ทั้งต้นและกลางประโยค แต่มักพบในการเชื่อมกลางประโยคมากกว่า ให้ใช้ comma คั่นใจความส่วนแรกแล้วจึงตามด้วย otherwise และข้อความที่แสดงถึงผลที่อาจเกิดขึ้นตามมา เช่น

- I have to say this before I start working, otherwise I'll forget.
- Ben is not motivated by money, otherwise I would have quit the job.
- You'll have to go now, otherwise you'll miss your English class.

แบบฝึกหัด 1 จงเติมคำเชื่อมที่ถูกต้องที่สุดลงในช่องว่าง

in order to

unless

otherwise

1. You won't know what to do _____ you watch the instruction video carefully.
2. I went home _____ feed my dog.
3. I'll never speak to him again _____ he apologizes to my mother.
4. The restaurant must be open, _____ there wouldn't be anyone inside.
5. I hope we haven't missed the last flight; _____, we'll have to wait another day.
6. I checked my bag three times _____ make sure that I had my money with me.
7. _____ contact him, I had to wait for ten minutes on the line.
8. You should wear warm clothes, _____ you'll catch a cold.
9. Please do not give that number to anyone _____ it's an emergency.
10. _____ pass the final exam, you should study hard.

แบบฝึกหัด 2 จงเลือกคำเชื่อมที่ถูกต้องที่สุด

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. It is important for the project to meet the needs of the business and the employees, _____ some of them may not participate. a) otherwise b) unless c) in order to 2. Most organizations exist in a changing environment and must adapt _____ survive. a) otherwise b) in order to c) unless | <ol style="list-style-type: none"> 3. Meetings are infamous for taking up a lot of time during which people claim they would _____ be doing "proper" work. a) in order to b) unless c) otherwise 4. _____ there is oxygen, the living things cannot live. a) otherwise b) unless c) in order to 5. They wouldn't all be there _____ something terrible had happened. a) otherwise b) in order to c) unless |
|--|---|

Logical connector handout (Set 2)

Whereas = ในขณะที่

คำเชื่อมนี้ใช้เชื่อมข้อความระดับประโยคที่มีเนื้อหาขัดแย้งกัน สามารถอยู่ได้ทั้งต้นหรือกลางประโยค ถ้าอยู่ต้นประโยคต้องมีเครื่องหมาย **comma** คั่นข้อความส่วนแรก และถ้าอยู่กลางประโยคต้องมี **comma** หน้าคำเชื่อมเสมอ เช่น

- He likes reading books, whereas I enjoy surfing the Internet.
- Nadia spent six days to finish the project, whereas George did it in one month.
- Whereas they spent over \$1 million on their new house, they ignored their son's education.

Besides = แล้วยังอีกอย่าง

คำเชื่อมนี้เป็นคำที่ใช้ในกรณีที่ไม่ต้องการความเป็นทางการมากนัก ใช้เชื่อมข้อความระดับประโยคที่มีเนื้อหาคล้ายตามกัน โดยความหลังคำเชื่อมจะสนับสนุนให้ข้อความแรกมีน้ำหนักน่าเชื่อถือเพิ่มขึ้น คำนี้อยู่ต้นประโยคและมีเครื่องหมาย **comma** ตามหลังเสมอ เช่น

- I'm not ready to get married yet. Besides, I enjoy living alone.
- Jessica is too tired to go for a walk. Besides, it's raining.
- Angela says she couldn't get to the university through the heavy rain. Besides, her car's broken down.

Furthermore = นอกจากนี้ ยิ่งกว่านั้น

คำเชื่อมนี้ใช้เชื่อมข้อความระดับประโยคเพื่อให้ข้อมูลเพิ่มเติม สามารถอยู่ได้ทั้งต้นและกลางประโยค ถ้าอยู่ต้นประโยค ต้องมีเครื่องหมาย **comma** หลังคำเชื่อม และถ้าอยู่กลางประโยคต้องมีเครื่องหมาย **semicolon** คั่นข้อความแรก ตามด้วยคำว่า **furthermore** และตามด้วยเครื่องหมาย **comma** เช่น

- The house is beautiful. Furthermore, it's in a great location.
- Reading is a good way to learn new vocabulary words; furthermore, it can improve your ability to spell words correctly.
- Students should be on time. Furthermore, they must be prepared.

แบบฝึกหัด 1 ประโยคดังต่อไปนี้ใช้คำเชื่อมถูกต้องหรือไม่ หากใช้ผิดควรแก้อย่างไร

1. She always arrives on time. Her work, **furthermore**, has always been excellent.

ถูก ผิด

2. He has brown eyes. **Besides**, his children have green eyes. ถูก ผิด

3. He must be about 60, **whereas** his wife looks about 30. ถูก ผิด

4. He doesn't mind being unemployed now; **besides**, it gives him more time to learn other new skills. ถูก ผิด

5. The new president has earned the respect of all workers, **whereas** they know they can trust him. ถูก ผิด

6. She doesn't want to move to Phuket because it's expensive to live there; **furthermore**, she likes living in the north. ถูก ผิด

แบบฝึกหัด 2 จงจับคู่ข้อความส่วนแรกและส่วนที่สองให้ถูกต้อง

- | | |
|--|---|
| 1. A frozen pizza costs about 130 baht, | a. Besides, it's too late to eat now. |
| 2. I'm not really hungry. | b. whereas his wife looks much younger. |
| 3. Jack must be about 45, | c. Besides, I'm not interested to go out tonight. |
| 4. Mom won't allow me. | d. and furthermore, I don't care. |
| 5. I don't know what happened to Daniel, | e. whereas a pizza from famous store costs around 350 baht. |

Logical connector handout (Set 3)

In fact = อันที่จริง แท้จริงแล้ว

คำเชื่อมนี้ใช้เชื่อมเพื่อขยายข้อความในประโยคแรกให้ชัดเจนยิ่งขึ้น โดยสามารถอยู่ได้ทั้งต้นหรือกลางประโยคและใช้เชื่อมในระดับประโยคเท่านั้น เช่น

- I thought the work would be difficult. In fact, it's very easy.
- They told me the new smart phone would be cheap but in fact it cost me nearly \$500.
- I know the head of the financial department really well. In fact, I had dinner with him three days ago.

Thus = ดังนั้น

คำนี้ใช้เชื่อมข้อความสองข้อความที่เป็นเหตุเป็นผลกัน โดยข้อความหลังคำเชื่อมแสดงผลที่เกิดขึ้นตามมา คำนี้สามารถอยู่ได้ทั้งต้นหรือกลางประโยค หากอยู่ต้นประโยคจะต้องมีเครื่องหมาย comma ตามหลังทันทีแล้วตามด้วยข้อความระดับประโยคเท่านั้น หากใช้เชื่อมอยู่กลางประโยคจะต้องมีเครื่องหมาย comma นำเสมอ แล้วจึงตามด้วยประโยคหรือวลีเช่น

- ABC Company planned to reduce costs. Thus, a large number of workers had been laid off.
- The right decision was made, and thus the situation of the company improved.
- He studied hard, and thus getting good grades in all subjects.

As long as = ตราบใดที่

กลุ่มคำนี้เป็นคำเชื่อมข้อความระดับประโยคเพื่อแสดงเงื่อนไข โดยข้อความที่ตามหลังคำเชื่อมนี้เป็นข้อความที่แสดงเงื่อนไข กลุ่มคำนี้อาจอยู่ได้ทั้งต้นหรือกลางประโยค หากตั้งอยู่ต้นประโยค จะต้องใช้เครื่องหมาย comma คั่นข้อความแรก เช่น

- As long as the concert is free, we will go.
- You can borrow the car as long as you drive safely.
- You can go to the party as long as you promise to be back before midnight.

Logical connector handout (Set 4)

Due to = เนื่องจาก เพราะ

คำเชื่อมนี้ใช้เชื่อมข้อความสองข้อความที่เป็นเหตุเป็นผลกัน โดยข้อความหลังคำเชื่อมเป็นการบอกสาเหตุ และเป็นข้อความที่เป็นวลีเท่านั้น คำเชื่อมนี้สามารถอยู่ได้ทั้งต้นและกลางประโยค หากอยู่ต้นประโยคจะต้องมีเครื่องหมาย comma คั่นข้อความส่วนแรกเสมอ และหากอยู่กลางประโยคไม่จำเป็นต้องมีเครื่องหมายใดๆกำกับ เช่น

- Due to a national holiday, all schools will be closed next Monday.
- The concert was cancelled due to bad weather conditions.
- The problems on her files might be due to computer virus.

Even though = ถึงแม้ว่า

คำเชื่อมนี้ใช้เชื่อมข้อความระดับประโยคสองข้อความที่มีเนื้อหาขัดแย้งกัน สามารถอยู่ได้ทั้งต้นและกลางประโยค หากอยู่ต้นประโยคต้องมีเครื่องหมาย comma คั่นข้อความส่วนแรกเสมอ และหากอยู่กลางประโยคอาจมีเครื่องหมาย comma นำหน้าหรือไม่ก็ได้ เช่น

- Many international firms decided not to close their business even though the profit they have gained was low.
- He tried to be cheerful even though he had failed the English test.
- Even though she had been married before, Margot had decided to have a full church wedding.

In other words = กล่าวอีกอย่างได้ว่า กล่าวคือ หรือพูดง่ายๆว่า

กลุ่มคำเชื่อมนี้ใช้เชื่อมข้อความระดับประโยคสองข้อความโดยที่ข้อความที่อยู่หลังกลุ่มคำเชื่อมนี้ช่วยทำให้ข้อความแรกชัดเจนและเข้าใจได้ง่ายขึ้นเพราะใช้ถ้อยคำที่ง่ายกว่าและชัดเจนกว่า กลุ่มคำเชื่อมนี้สามารถอยู่ได้ทั้งต้นและกลางประโยค ถ้าอยู่ต้นประโยคจะต้องมีเครื่องหมาย comma ตามหลังเสมอและหากอยู่กลางประโยค สามารถเชื่อมได้โดยการใช้เครื่องหมาย semicolon นำแล้วจึงตามด้วยคำเชื่อมและเครื่องหมาย comma เช่น

- Everything he said was not true; in other words, he was telling lies.
- She said the movie was a bit boring. In other words, she didn't like it.
- The presents are kept in the secret room. In other words, only my parents know where they are.

แบบฝึกหัด 1 จงเชื่อมประโยคต่อไปนี้ได้ด้วยคำเชื่อมและเครื่องหมายวรรคตอนที่เหมาะสม

Even though

In other words

Due to

1. She has studied English for many year. She cannot spell the word “conscious”.

.....

2. The weather was terrible and the plane took off two hours after the scheduled time. She was late for the meeting.

.....

3. The morning class was cancelled. The earthquake

.....

4. She didn't pay attention to the presentation. She was playing games.

.....

5. The workforce was reduced. Bad economy

.....

6. I was very tired. I went to a Halloween party.

.....

แบบฝึกหัด 2 จงเลือกคำตอบที่ถูกต้องที่สุด

1. He is nervous; _____, he worries about problems a lot.

a. due to b. even though c. in other words

2. _____ the arm injury of two players, the team captain had to skip the next volleyball match.

a. Due to b. Even though c. In other words

3. Many girls like him _____ his good looks.

a. Due to b. Even though c. In other words

4. He has been in the hospital since Thursday. _____, I don't think he'll be able to come to the meeting.

a. Due to b. Even though c. In other words

5. We are still good friends, _____ she can be annoying at times.

a. Due to b. Even though c. In other words

Logical connector handout (Set 5)

As a result = ดังนั้น

กลุ่มคำเชื่อมนี้ใช้เชื่อมข้อความที่เป็นเหตุเป็นผลกัน โดยข้อความหลังคำเชื่อมเป็นข้อความที่แสดงถึงผลที่เกิดขึ้น
กลุ่มคำเชื่อมนี้ต้องตามด้วยข้อความระดับประโยค โดยขึ้นต้นประโยคแล้วตามด้วยเครื่องหมาย comma ทันที่ หรือ
เชื่อมสองประโยคโดยมีคำว่า and นำหน้า และตามหลังด้วย comma เช่น

- Edward missed the bus. As a result, he was late for class.
- It comes into a house and makes a wife crazy. As a result, she shouts at her husband all the time.
- He spent a few minutes staring at the price, and as a result, he was late arriving for work at the police station.

As a result of = ด้วยเหตุที่ เป็นผลมาจาก

กลุ่มคำนี้ใช้เชื่อมข้อความที่เป็นเหตุเป็นผลเหมือนกับ as a result แต่ต่างกันตรงที่ข้อความหลัง as a result of
ต้องเป็นข้อความระดับวลีที่บ่งบอกถึงสาเหตุ สามารถใช้เชื่อมได้ทั้งต้นและกลางประโยค หากตั้งอยู่ต้นประโยคต้องมี
เครื่องหมาย comma คั่นข้อความส่วนแรกและหากตั้งอยู่กลางประโยคไม่ต้องมีเครื่องหมายวรรคตอนใดๆ กำกับ
เช่น

- These men joined the army, and gained higher ranks as a result of their hard work.
- As a result of poor food and bad living conditions, many girls died.
- He was strong and healthy as a result of the strict training he did every morning.

Meanwhile = ในระหว่างนั้น

คำเชื่อมนี้ใช้เชื่อมข้อความระดับประโยคเพื่อแสดงลำดับเวลาของสองเหตุการณ์ สามารถตั้งอยู่ได้ทั้งต้นและกลาง
ประโยค หากตั้งอยู่ต้นประโยค ต้องมีเครื่องหมาย comma ตามเสมอ หากตั้งอยู่กลางประโยคสามารถเชื่อมได้สอง
วิธีคือ ใช้เครื่องหมาย semicolon (;) ตามด้วยคำเชื่อมและเครื่องหมาย comma หรือใช้เครื่องหมาย comma
นำหน้า coordinating conjunction (and หรือ but) แล้วตามด้วยคำเชื่อม meanwhile เช่น

- Candice is starting college in August. Meanwhile, she's preparing to move to her new dormitory.

- We'll buy you some new clothes at the weekend, but meanwhile you'll just have to wear the old ones.
- Flora continued to look for Elfine when she went out for walks on the hills. Meanwhile, Aunt Ada Doom sat in her room upstairs alone.

On the contrary = ในทางกลับกัน

กลุ่มคำเชื่อมนี้ใช้เชื่อมข้อความระดับประโยคสองประโยคที่มีเนื้อหาขัดแย้งกัน สามารถตั้งอยู่ได้ทั้งต้นและกลางประโยค กรณีตั้งอยู่ต้นประโยคต้องมีเครื่องหมาย comma ตามหลังเสมอ และหากตั้งอยู่กลางประโยคสามารถเชื่อมได้โดยการใช้เครื่องหมาย semicolon (;) นำแล้วจึงตามด้วยกลุ่มคำเชื่อมนี้และเครื่องหมาย comma เช่น

- Cheating on exams isn't a good thing to do; on the contrary, it is a very big mistake.
- Your girlfriend doesn't understand your English. On the contrary, she understands mine very well.
- "You said the film was exciting?"
"On the contrary, I almost fell asleep after the first 15 minutes!"

แบบฝึกหัด 1 วงกลมล้อมรอบคำที่ถูกต้องในแต่ละประโยค

1. My little brother doesn't want to be punished; as a result/meanwhile/on the contrary, he sometimes lie to my mother.
2. I don't hate Emma. As a result/Meanwhile/On the contrary, I quite like spending time with her.
3. You can set the table. As a result/Meanwhile/On the contrary, I'll go to pick up some food from the restaurant.
4. It isn't true that Janet is not good at music; as a result/meanwhile/on the contrary, she plays the violin very well.
5. On that day, American airplanes flew over Hiroshima and dropped the world's first atomic bomb. Most people agree that this terrible bomb ended World War 2. As a result/Meanwhile/On the contrary, many thousands of lives were saved.

6. They're still working on our bedroom decoration. As a result/Meanwhile/On the contrary, we're sleeping at our friend's apartment.

แบบฝึกหัด 2 จงจับคู่ข้อความเพื่อสร้างประโยคให้ถูกต้อง

- | | |
|--|--|
| 1. The doctor will see you again next Tuesday. | a. on the contrary, she quite likes it. |
| 2. She does not hate playing crossword; | b. On the contrary, that was their favorite part. |
| 3. These men joined the army, and gained higher ranks | c. as a result of getting wet. |
| 4. I have a meeting in an hour, | d. but meanwhile I'm going to take a nap. |
| 5. I thought the ghost part of the movie would scare the children. | e. Meanwhile, you must rest as much as possible. |
| 6. In the morning we discovered that she had caught a fever | f. as a result of their hard work. |
| | g. as a result of the strict training he did every morning |

Logical connector handout (Set 6)

In contrast, in contrast to = ในทางกลับกัน

In contrast และ **in contrast to** ใช้เชื่อมข้อความสองข้อความที่มีเนื้อหาขัดแย้งกัน **in contrast** ใช้เชื่อมข้อความระดับประโยคและสามารถอยู่ได้ทั้งต้นและกลางประโยค กรณีอยู่ต้นประโยคต้องมีเครื่องหมาย **comma** ตามมาทันที กรณีอยู่กลางประโยคต้องใช้เครื่องหมาย **semicolon** นำแล้วจึงตามด้วยคำเชื่อมและเครื่องหมาย **comma** ซึ่งสรุปได้ดังนี้

กรณีอยู่ต้นประโยค ----- ประโยค 1----- **In contrast,** -----ประโยค 2-----.

กรณีอยู่กลางประโยค -----ประโยค 1-----; **in contrast,** -----ประโยค 2-----.

แต่สำหรับ **in contrast to** นั้นข้อความหน้า **in contrast to** ต้องเป็นข้อความระดับประโยค และข้อความที่ตามหลัง **in contrast to** ต้องเป็นข้อความระดับวลีเท่านั้น เมื่อจบข้อความแรกต้องมีเครื่องหมาย **comma** เสมอไม่ว่าคำว่า **in contrast to** จะอยู่ต้นหรือกลางประโยค ซึ่งสรุปได้ดังนี้

กรณีอยู่ต้นประโยค **In contrast to** + วลี, -----ประโยค-----.

กรณีอยู่กลางประโยค -----ประโยค-----, **in contrast to** -----วลี-----.

- Canned food is expensive. In contrast, fresh food is a lot cheaper.
- Last year, it rained the whole of May. In contrast, June was a very dry month.
- Golf is considered a game for the rich, in contrast to football, which can be enjoyed by anybody.

Once = เมื่อ เมื่อไรที่ ทันทีที่

คำเชื่อมนี้ใช้เชื่อมข้อความระดับประโยค โดยความสัมพันธ์ระหว่างสองข้อความที่ถูกเชื่อมสามารถแบ่งได้เป็นสามประเภทคือ 1. แสดงลำดับเวลาของเหตุการณ์ที่ไล่เลี่ยกัน 2. แสดงเงื่อนไข 3. แสดงเหตุและผล คำเชื่อมนี้สามารถตั้งอยู่ได้ทั้งต้นและกลางประโยค กรณีตั้งอยู่ต้นประโยคต้องมีเครื่องหมาย **comma** คั่นข้อความส่วนแรก กรณีตั้งอยู่กลางประโยคไม่ต้องมีเครื่องหมายใดกำกับ ซึ่งสรุปได้ดังนี้

กรณีอยู่ต้นประโยค **Once** + ประโยค 1, -----ประโยค 2-----.

กรณีอยู่กลางประโยค -----ประโยค 1 **once** + ประโยค 2 -----.

- Once the two men had decided where to go, they got back into their cars and started their again. (แสดงลำดับเวลาของเหตุการณ์)
- I will comment further on this once I have had a chance to go through everything myself. (แสดงเงื่อนไข)
- Once you try, you'll see that there's nothing to be afraid of. (แสดงสาเหตุและผล)

Even if = แม้ว่า

คำเชื่อมนี้ใช้เชื่อมข้อความระดับประโยคที่มีเนื้อหาขัดแย้งกัน โดยเครื่องหมาย comma จะถูกนำมาใช้คั่นข้อความส่วนแรกเสมอ ไม่ว่าคำเชื่อมจะอยู่ต้นหรือกลางประโยค โดยกรณีเชื่อมกลางประโยค คำเชื่อมต้องตามหลังเครื่องหมาย comma ซึ่งสรุปได้ดังนี้

กรณีอยู่ต้นประโยค Even if + ประโยค 1, -----ประโยค 2-----.

กรณีอยู่กลางประโยค -----ประโยค 1, even if + ประโยค 2-----.

- For example, a yellow taxi must take a passenger to any part of the city, even if it is dangerous.
- But she hadn't wanted to stay in a tourist centre, even if it was beautiful.
- Even if he could no longer be her lover, she needed him as a friend.

แบบฝึกหัด จงเติมคำเชื่อมที่ถูกต้องลงในช่องว่าง

In contrast

In contrast to

Once

Even if

1. _____ you've tried their pizza, you'll go back for more.
2. Petrol prices have gone up this year. _____, car prices are decreasing.
3. Things usually get better sooner or later, _____ it takes a little while.
4. Our company lost \$8 million this year _____ a profit of \$6.2 million a year earlier.
5. I'm sure you'll be good friend _____ you get to know her well.

6. He's going to buy the farm _____ they raise the price.
7. But _____ the idea had come into her mind, she could not completely forget it.
8. _____ Elinor was in trouble, she would never have jumped out of a window.
9. _____ to his parents who love watching movies, Nash enjoys travelling.
10. Life in New York is very fast; _____, life in India is more relaxing.

Logical connector handout (Set 7)

Despite = ทั้งๆที่ แม้ว่า

คำเชื่อมนี้ใช้เชื่อมข้อความที่มีใจความขัดแย้งกัน โดยข้อความหลัง **despite** ต้องเป็นข้อความระดับวลีเท่านั้น สามารถตั้งอยู่ได้ทั้งต้นและกลางประโยค กรณีอยู่ต้นประโยคต้องมีเครื่องหมาย **comma** คั่นข้อความส่วนแรกแล้ว จึงตามด้วยส่วนที่เหลือ กรณีอยู่กลางประโยคไม่ต้องมีเครื่องหมายใดๆกำกับ วิธีใช้ข้างต้นสามารถสรุปได้ดังนี้

กรณีอยู่ต้นประโยค **Despite** + -----วลี-----, -----ประโยค-----.

กรณีอยู่กลางประโยค -----ประโยค----- **despite** + -----วลี-----.

- Nothing seemed to go quite right despite all our preparations.
- Sandra screamed and we both fell forward despite our seat-belts.
- The gasoline tank was three feet high and completely full. Despite its weight, she got it out of the garage and rolled it across the garden, making no noise on the grass.

As if = ราวกับว่า

คำเชื่อมนี้ใช้เชื่อมข้อความเพื่อคาดเดาเหตุการณ์ เพื่อเปรียบเทียบพฤติกรรม เหตุการณ์ หรือเพื่อเปรียบเทียบการกระทำที่ตรงข้ามกับความจริง ถ้าเป็นการเปรียบเทียบการกระทำที่ตรงข้ามกับความจริง ประโยคที่ตามหลัง **as if** จึงต้องอยู่ในรูปของอดีต คำเชื่อมนี้ตั้งอยู่กลางประโยคเท่านั้นและไม่ต้องมีเครื่องหมายวรรคตอนใดๆกำกับ ข้อความหน้าคำเชื่อมอาจเป็นได้ทั้งประโยคสมบูรณ์หรือไม่สมบูรณ์ วิธีใช้ข้างต้นสามารถสรุปได้ดังนี้

เพื่อคาดเดาเหตุการณ์ เพื่อเปรียบเทียบ

-----ประโยคสมบูรณ์/ไม่สมบูรณ์ ----- + **as if** + -----ประโยค-----

เปรียบเทียบการกระทำที่ตรงข้ามกับความจริง

-----ประโยคสมบูรณ์/ไม่สมบูรณ์ ----- + **as if** + -----ประโยคที่เป็น past tense -----

- Football is now a business, but players are expected to act as if it was still a sport.
- He had spoken to her as if she was a child.
- You talk as if I have agreed to come with you. Go and good luck to you.

On the other hand = ในทางกลับกัน

กลุ่มคำเชื่อมนี้ใช้เชื่อมข้อความระดับประโยคสองข้อความที่มีเนื้อหาขัดแย้งกัน และใช้นำหน้าประโยคที่สองเท่านั้น โดยมีเครื่องหมาย comma คั่นข้อความส่วนแรกแล้วจึงตามด้วยข้อความระดับประโยค ในกรณีที่ต้องการให้มีลีลาการเขียนที่ต่างจากการใช้ **on the other hand** แบบแรก ให้ขึ้นต้นประโยคด้วยประธานก่อนตามด้วยเครื่องหมาย comma + **on the other hand** + comma และตามด้วยส่วนที่เหลือของประโยค วิธีใช้ข้างต้นสามารถสรุปได้ดังนี้

กรณีอยู่ต้นประโยค -----ประโยค 1-----, **On the other hand**, -----ประโยค 2-----

กรณีต้องการเพิ่มลีลาการเขียน -----ประโยค 1----- ประธาน, **on the other hand**, -----ประโยค 2-----

- When my sister goes shopping, she mainly buys clothes and cosmetics. My brother, **on the other hand**, tends to buy computer games or gadgets.
- The steak was tough and overcooked. The spaghetti, **on the other hand**, was terrific, and well worth the money.
- Cyberspace can be an exciting environment to meet new people. **On the other hand**, it cyberspace has disadvantages.

แบบฝึกหัด 1 ประโยคดังต่อไปนี้ใช้คำเชื่อมถูกต้องหรือไม่ หากใช้ผิดควรแก้ไขอย่างไร

11. Ellen likes living in a big city. My wife, **on the other hand**, prefers to live in a rural area. ถูก ผิด

.....

12. We just met, and he talked **despite** he knew me well. ถูก ผิด

.....

13. **Despite** applying for a hundred jobs, he is still unemployed. ถูก ผิด

.....

14. In many western countries, the elderly live in retirement homes. In Thailand, **on the other hand**, they live with their children and grandchildren. ถูก ผิด

.....

15. She likes to design clothes **as if** the fact that she found it very time consuming.

- ถูก ผิด
-

16. The butterfly hit the window first with one wing and then with the other **on the other hand** he really was sending a message.

- ถูก ผิด
-

แบบฝึกหัด 2 จงจับคู่ข้อความทั้งสองส่วนให้ถูกต้อง

- | | |
|--|---|
| 1. Opposite him was a thin, nervous man in his late twenties, dressed in a shirt with long sleeves | a. as if he is there with her. |
| 2. Even though he is far away, when she reads this letter it will be | b. as if I was a ghost. |
| 3. She is a generous lady. Her brother, | c. and despite that, he asks me to marry him! |
| 4. But I know that he doesn't love me, | d. despite the heat, and wearing sunglasses. |
| 5. They stared at me | e. on the other hand, is a very selfish man. |

Logical connector handout (Set 8)

Nevertheless = แม้กระนั้นก็ตาม ถึงอย่างนั้นก็ตาม

คำเชื่อมนี้ใช้เชื่อมข้อความที่มีเนื้อหาขัดแย้งกัน โดยสามารถตั้งอยู่ได้ทั้งต้น กลางและท้ายประโยค กรณีอยู่ต้นประโยคต้องตามด้วยเครื่องหมาย comma ทันที หรือหากอยู่ท้ายประโยคต้องมีเครื่องหมาย comma คั่นข้อความส่วนแรก การใช้ **nevertheless** ในทั้งสองกรณีคือวางไว้ต้นและท้ายประโยคเป็นการเชื่อมข้อความระดับประโยค แต่หากวางคำนี้ไว้กลางประโยค คำเชื่อมนี้มักตามหลังประธานของข้อความที่สองโดยไม่มีเครื่องหมายวรรคตอนกำกับและการเชื่อมลักษณะนี้ไม่ใช่การเชื่อมระดับประโยคเนื่องจากข้อความส่วนแรกเป็นเพียงกลุ่มคำนามหรือประโยคที่ไม่สมบูรณ์ วิธีใช้สามารถสรุปได้ดังนี้

กรณีตั้งอยู่ต้นประโยค -----ประโยค1----- **Nevertheless,** -----ประโยค2-----.

กรณีตั้งอยู่กลางประโยค -----กลุ่มคำนาม/ประโยคไม่สมบูรณ์-----, ประธาน + **nevertheless**-----ประโยค 2-----

กรณีตั้งอยู่ท้ายประโยค -----ประโยค1-----, -----ประโยค2----- **nevertheless.**

- Most marriages fail after between five and nine years. Nevertheless, people continue to get married.
- Inexperienced as a musician, she nevertheless took on the challenge, performing well on the stage.
- The dogs are guarded around the house, but robberies occur nevertheless.

In addition to = นอกจากนี้

คำเชื่อมนี้ใช้เชื่อมข้อความที่มีเนื้อหาคล้ายตามกันเพื่อเป็นการให้ข้อมูลหรือรายละเอียดเพิ่มเติม โดยข้อความที่ตามหลัง **in addition to** ต้องเป็นข้อความระดับวลีเท่านั้น สามารถตั้งอยู่ได้ทั้งต้นและกลางประโยค กรณีตั้งอยู่ต้นประโยคต้องมีเครื่องหมาย comma คั่นข้อความส่วนแรกเสมอ กรณีตั้งอยู่กลางประโยคไม่ต้องมีเครื่องหมายวรรคตอนใดๆกำกับ วิธีใช้สามารถสรุปได้ดังนี้

กรณีตั้งอยู่ต้นประโยค **In addition to** -----วลี-----, -----ประโยค-----.

กรณีตั้งอยู่กลางประโยค -----ประโยค----- **in addition to** -----วลี-----.

- How many things are you doing right now in addition to running a restaurant?

- In addition to his apartment in Vegas, he has a villa in Berlin and a castle in Scotland.
- In addition to cutting jobs, the company has announced that its profits are low for this year.

Hence = ด้วยเหตุนี้

คำเชื่อมนี้ใช้เชื่อมข้อความสองข้อความที่เป็นเหตุเป็นผลกัน สามารถตั้งอยู่ได้ทั้งต้นและกลางประโยคที่เป็นประโยคบอกผลลัพธ์ที่เกิดขึ้น กรณีตั้งอยู่ต้นประโยคต้องตามด้วยเครื่องหมาย comma ทั้งนี้ การเชื่อมในลักษณะนี้เป็นการเชื่อมระดับประโยคเท่านั้น กรณีตั้งอยู่กลางประโยคต้องมีเครื่องหมาย comma คั่นข้อความส่วนแรกแล้วจึงตามด้วย hence และกลุ่มคำนามหรือวลีที่เหลือ วิธีใช้สามารถสรุปได้ดังนี้

กรณีตั้งอยู่ต้นประโยค -----ประโยค1-----, Hence, -----ประโยค2-----.

กรณีตั้งอยู่กลางประโยค -----ประโยค-----, hence -----วลี-----.

- She's just found out that she failed her exams, hence her bad mood.
- She knew she could not win the tournament, hence her decision to withdraw.
- The company lost a lot of money after the last project. Hence, the CEO was asked to resign.

แบบฝึกหัด จงวงกลมคำเชื่อมที่ถูกต้อง

1. The situation is getting more and more difficult. Nevertheless/In addition to/Hence we will have to proceed carefully.
2. It's a difficult race. Nevertheless/In addition to/Hence, over 1,000 cyclists participate every year.
3. Nevertheless/In addition to/Hence to the twins, James has another son by his first wife.
4. The course is designed to improve students' communicative skills, nevertheless/in addition to/hence their academic skills.
5. The vegetables at the salad bar were very fresh and nevertheless/in addition to/hence customer satisfactory.

6. I don't like him but I appreciate his hard work nevertheless/in addition to/hence.
7. While this was a comfortable win for the team, nevertheless/in addition to/hence they had to train hard for it.
8. Jack's leaving next weekend, nevertheless/in addition to/hence his anxiety to get his work finished.
9. She asked if she could record the interview nevertheless/in addition to/hence taking notes.
10. The President was attending the conference, nevertheless/in addition to/hence all the extra security.
11. Most marriages fail after between five and nine years. Nevertheless/In addition to/Hence, people continue to get married.
12. Nevertheless/In addition to/Hence her art work, Monica is known as a leader of World Health Organization.

Logical connector handout (Set 9)

Instead of = แทนที่

คำเชื่อมนี้ใช้เชื่อมข้อความที่มีเนื้อหาขัดแย้งหรือตรงข้ามกัน โดยข้อความหลัง **instead of** ต้องเป็นระดับวลีหรือกลุ่มคำเท่านั้น คำเชื่อมสามารถตั้งอยู่ได้ทั้งต้นและกลางประโยค หากตั้งอยู่ต้นประโยคจะต้องมีเครื่องหมาย **comma** คั่นข้อความส่วนแรกเสมอแล้วจึงตามด้วยส่วนที่เหลือของประโยค และหากตั้งอยู่กลางประโยคไม่จำเป็นต้องมีเครื่องหมายวรรคตอนใดก็ตาม วิธีการใช้สามารถสรุปได้ดังนี้

กรณีตั้งอยู่ต้นประโยค **Instead of** -----วลี/กลุ่มคำนาม-----, -----ประโยค-----

กรณีตั้งอยู่กลางประโยค -----ประโยค----- **instead of** -----วลี/กลุ่มคำนาม-----

- He looked down on a hill called Tanbitches, but there were now only seven beech trees instead of ten.
- I'm a bit busy, Phil. Can we go tomorrow instead of this evening?
- Instead of turning south on Green Bay for Lake Bluff, I went on to Sheridan Road and turned left.

Unlike = แตกต่างจาก

คำเชื่อมนี้ใช้เชื่อมข้อความที่มีเนื้อหาขัดแย้งกันเพื่อแสดงการเปรียบเทียบ โดยข้อความหลัง **unlike** ต้องเป็นข้อความระดับวลีเท่านั้น สามารถตั้งอยู่ได้ทั้งต้นและกลางประโยค หากตั้งอยู่ต้นประโยคต้องมีเครื่องหมาย **comma** คั่นข้อความส่วนแรกเสมอแล้วจึงตามด้วยส่วนที่เหลือของประโยค และหากตั้งอยู่กลางประโยคไม่จำเป็นต้องมีเครื่องหมายวรรคตอนใดก็ตาม วิธีการใช้สามารถสรุปได้ดังนี้

กรณีตั้งอยู่ต้นประโยค **Unlike** -----วลี/กลุ่มคำนาม-----, -----ประโยค-----

กรณีตั้งอยู่กลางประโยค -----ประโยค----- **unlike** -----วลี/กลุ่มคำนาม-----

- The advantage of a goat is that you can teach it to attack thieves. And, unlike other animals, it can eat anything.
- Unlike his father who is very rude, this boy is very polite and sweet.
- Brat began to tell himself that the horses he saw now must have an easy life unlike the hard-working horses he had been used to in America.

Logical connector handout (Set 10)

As well as = และ รวมทั้ง

คำเชื่อมนี้ใช้เชื่อมเมื่อต้องการให้ข้อมูลเพิ่มเติม ซึ่งข้อความที่ตามหลัง **as well as** เป็นได้ทั้งข้อความระดับวลีหรือกลุ่มคำหรือระดับประโยค โดยจะตั้งอยู่ตรงกลางระหว่างข้อความ อาจนำหน้าด้วยเครื่องหมาย **comma** หรือไม่ก็ได้ และหากใช้ **as well as** เชื่อมประโยค 2 ประโยค เมื่อจบประโยคแรกให้คั่นด้วยเครื่องหมาย **comma** วิธีการใช้สามารถสรุปได้ดังนี้

-----ประโยค-----+ วลี/กลุ่มคำ + as well as + วลี/กลุ่มคำ.

-----ประโยค-----+ วลี/กลุ่มคำ, as well as + วลี/กลุ่มคำ.

-----ประโยค-----, + -----ประโยคที่มี as well as-----.

- There are slums in the country as well as in the city.
- People are not always satisfied with a quiet life, and women as well as men need action.
- You can buy newspapers like the New York Times and the Washington Post everywhere, as well as the magazines Time and Newsweek.

Nonetheless = อย่างไรก็ตาม ถึงอย่างไรก็ตาม

คำเชื่อมนี้ใช้เชื่อมข้อความระดับประโยคที่มีเนื้อหาขัดแย้งกัน สามารถตั้งอยู่ได้ทั้งต้น กลางและท้ายประโยค หากตั้งอยู่ต้นประโยคต้องมีเครื่องหมาย **comma** ตามหลังคำเชื่อมเสมอ หากตั้งอยู่กลางประโยคอาจอยู่หลัง **but** หรือหลังประธานและกริยาของประโยคที่สองก็ได้ และหากตั้งอยู่ท้ายประโยค ต้องเชื่อมตรงกลางระหว่างสองประโยค ด้วยคำว่า **but** จึงจะสามารถใช้ **nonetheless** เป็นคำสุดท้าย วิธีการใช้สามารถสรุปได้ดังนี้

กรณีอยู่ต้นประโยค -----ประโยค 1-----, **Nonetheless**, -----ประโยค 2-----.

กรณีอยู่กลางประโยค -----ประโยค 1 -----, **but nonetheless**-----ประโยค 2-----.

-----ประโยค 1 -----, **but** + ประธานและกริยา +**nonetheless**-----ประโยค 2-----

กรณีอยู่ท้ายประโยค -----ประโยค 1 ----- **but** -----ประโยค 2----- **nonetheless**.

- I don't think Adam has any behavioral problems. Nonetheless, I'll talk to him again tomorrow.
- Despite being younger than other players, Robin was nonetheless a valuable member of the team.
- It was late for the year for Sakura blossom but the park was beautiful nonetheless.

Therefore = ดังนั้น เพราะฉะนั้น

คำเชื่อมนี้ใช้เชื่อมข้อความระดับประโยคที่มีเนื้อหาเป็นเหตุเป็นผลกัน สามารถตั้งอยู่ได้ทั้งต้นและกลางประโยค หากตั้งอยู่ต้นประโยคต้องมีเครื่องหมาย **comma** ตามหลังคำเชื่อมเสมอ และหากตั้งอยู่กลางประโยค คำเชื่อมนี้มักจะตามหลังประธานและกริยาของประโยคที่สองโดยมีเครื่องหมาย **comma** คั่นทั้งหน้าและหลัง หรือตามหลังคำเชื่อม **and** และส่วนที่เหลือของประโยค วิธีการใช้สามารถสรุปได้ดังนี้

กรณีตั้งอยู่ต้นประโยค -----ประโยค 1-----. **Therefore**, -----ประโยค 2-----.

กรณีตั้งอยู่กลางประโยค ----ประโยค 1----. ประธานและกริยา, **therefore**, ---ส่วนที่เหลือของประโยค 2---
-----ประโยค 1-----, and **therefore** -----ประโยค 2-----.

- She also writes about plants, and takes beautiful colour photographs of them.
Therefore, she was interested in the wonderful flowers which grow in Greece.
- There is still much to discuss. We shall, therefore, return to this topic at our next meeting.
- Flora feel quite unhappy. She decided, therefore, to cheer herself up by walking to a pub to have lunch in.

แบบฝึกหัด จงเติมคำเชื่อมที่ถูกต้องลงในประโยคต่อไปนี้

| | | |
|-------------------|--------------------|------------------|
| As well as | Nonetheless | Therefore |
|-------------------|--------------------|------------------|

1. We still have a lot to do. _____, we have made some progress.
2. Our company sells goods which are manufactured locally, _____ internationally.

3. Those people have their umbrellas up and the roads are wet.
_____, it must have been raining for a while.
4. His bad attitude causes him to do poorly in school, _____ making it harder for him to make friends.
5. He cooks very slowly sometimes, but the foods are _____ tasty.
6. We heard the warning on the radio this morning, and _____ we took another route.
7. For public appearances, she had to wear clothes that were comfortable, _____ beautiful.
8. He experienced the silence with his eyes _____ his ears.
9. The disease may not affect him. _____, the doctors are examining it closely.
10. There is still much to discuss. We shall, _____, return to this topic at our next meeting.
11. The rumor was denied by the government but _____ it influenced some vote.
12. The Rajah was afraid that Jim would attack him too – he could lose his land, his money, his women, his servants! – and _____ he behaved very carefully.

APPENDIX F

Paper-based concordance (Set 1)

In order to

| | |
|----|--|
| 1. | I love listening to the sound of rain in order to fall asleep easily. |
| 2. | I set up this blog in order to keep my friends and family informed of my time in Hanoi. |
| 3. | You must set up an online account in order to view, save and print documents. |
| 4. | You have to find a job and apply for a work permit in order to stay in this country. |
| 5. | In order to identify if the rice is real or fake, you should boil it. |
| 6. | He came home early in order to see the kids before they went to bed. |
| 7. | Soon you will receive an email, which you need to confirm in order to complete your registration process. |

Unless

| | |
|----|--|
| 1. | Unless some extra money is found, the business will close. |
| 2. | Don't visit at home unless it's absolutely necessary. |
| 3. | Unless the weather improves, we will have to cancel the football match. |
| 4. | Don't use smartphones during class unless you get my permission. |
| 5. | Unless it rains, we'll go to the beach tomorrow. |
| 6. | You can't play a computer game unless you finish your homework. |
| 7. | Unless she had permission from her parents, she wouldn't go abroad alone. |

Otherwise

| | |
|----|---|
| 1. | Ben is not motivated by money, otherwise he would have quit the job. |
| 2. | You'll have to go now, otherwise you'll miss your English class. |
| 3. | Maria must have been very sick, otherwise she'd be here by now. |
| 4. | Write it down in your notebook, otherwise you'll forget it very soon. |
| 5. | My friend has to listen to soft music for a while, otherwise she can't sleep. |
| 6. | I have to say this before I start working otherwise I'll forget. |
| 7. | Thank you for telling me about the concert being cancelled. Otherwise , I'd have travelled all the way to Bangkok for nothing. |

Paper-based concordance (Set 2)

Whereas

| | |
|----|--|
| 1. | Jack must be about 45. whereas his wife looks much younger. |
| 2. | He likes reading books, whereas I enjoy surfing the Internet. |
| 3. | Nadia spent six days to finish the project, whereas George did it in one month. |
| 4. | Whereas they spent over \$1 million on their new house, they ignored their son's education. |
| 5. | Her hair is brown and curly, whereas mine's is black and straight. |
| 6. | Color black absorbs heat, whereas white reflects it. |
| 7. | Jim likes to go swimming, whereas Cindy likes to sing. |

Besides

| | |
|----|--|
| 1. | I'm not ready to get married yet. Besides , I enjoy living alone. |
| 2. | Angela says she couldn't get to the university through the heavy rain. Besides , her car's broken down. |
| 3. | I don't mind picking up your books from the store. Besides , the walk will make me strong. |
| 4. | Kathy won't mind if you're not coming - Besides , it's not your fault. |
| 5. | It's too late to invite any more people. Besides , you know how Tim hates parties. |
| 6. | Jessica is too tired to go for a walk. Besides , it's raining. |
| 7. | I wanted to help clean her house. Besides , I needed some money. |

Furthermore

| | |
|----|---|
| 1. | Students should be on time. Furthermore , they must be prepared. |
| 2. | You must complete this essay by 5 p.m. Furthermore , you must do the exercises on page 47. |
| 3. | The house is beautiful. Furthermore , it's in a great location. |
| 4. | I don't know what happened to Roberto, and furthermore , I don't care. |
| 5. | I'm not interested in what you are selling, and furthermore , I asked your company not to contact me again. |
| 6. | Reading is a good way to learn new vocabulary words; furthermore , it can improve your ability to spell words correctly. |
| 7. | Recycling is an easy way to conserve natural resources; furthermore , it can help reduce garbage disposal costs. |

Paper-based concordance (Set 3)

In fact

| | |
|----|---|
| 1. | This is a very good computer. In fact , it's the best. |
| 2. | I know the head of the financial department really well. In fact , I had dinner with him three days ago. |
| 3. | They told me the new smart phone would be cheap but in fact it cost me nearly \$500. |
| 4. | She isn't kind to him. In fact , she's not kind to anyone. |
| 5. | I thought the work would be difficult. In fact , it's very easy. |
| 6. | People don't know the crime rate has decreased. In fact , it's gone up. |
| 7. | The winter of 1990 was very bad. In fact , most people say it was the worst winter of their lives. |

Thus

| | |
|----|---|
| 1. | Both football teams played very well. Thus , there was no winner. |
| 2. | ABC company planned to reduce costs. Thus , a large number of workers had been laid off. |
| 3. | Tina practice tennis six hours a day, thus winning the game easily. |
| 4. | He studied hard, and thus getting good grades in all subjects. |
| 5. | It is late, and thus we must go now. |
| 6. | The right decision was made, and thus the situation of the company improved. |
| 7. | We do not own the house. Thus , it would be impossible for us to paint the wall. |

As long as

| | |
|----|--|
| 1. | You can go to the party as long as you promise to be back before midnight. |
| 2. | As long as the concert is free, we will go. |
| 3. | The president needs not to resign, as long as the company can still make a profit. |
| 4. | You will pass the test as long as you study hard. |
| 5. | You can borrow the car as long as you drive safely. |
| 6. | You can have a pet dog as long as you promise to feed it two times a day. |
| 7. | We don't mind if the new worker stays here, as long as he helps us with our garden. |

Paper-based concordance (Set 4)

Due to

| | | |
|----|---|--|
| 1. | | Due to the arm injury of two players, the team captain had to skip the next volleyball match. |
| 2. | The medical examiner states that death was due to "natural causes". | |
| 3. | The concert was cancelled due to bad weather conditions. | |
| 4. | The problems on her files might be due to computer virus. | |
| 5. | The company's financial losses were due to lack of management skills. | |
| 6. | Due to many serious complaints of customers, the new manager lost his job. | |
| 7. | Due to a national holiday, all schools will be closed next Monday. | |

Even though

| | | |
|----|--|---|
| 1. | | The music was playing very loudly even though the pub was empty. |
| 2. | Her face was very pale and she was wearing sunglasses, even though she was indoors. | |
| 3. | He tried to be cheerful even though he had failed the English test. | |
| 4. | He would know what was required of him, even though he might not be able to act quickly enough. | |
| 5. | She had been disturbed by their voices and had closed her door, even though it was a very hot day. | |
| 6. | Many international firms decided not to close their business even though the profit they have gained was low. | |
| 7. | Even though she had been married before, Margot had decided to have a full church wedding. | |

In other words

| | | |
|----|---|--|
| 1. | | The presents are kept in the secret room, in other words only my parents know where they are. |
| 2. | The tax only affects the rich. In other words , people with low salary need not to be worried. | |
| 3. | Everything he said was not true; in other words , he was telling lies | |
| 4. | He is nervous; in other words , he worries about problems a lot. | |
| 5. | She said the movie was a bit boring. In other words , she didn't like it. | |
| 6. | Does our new worker have enough work experience and skills; in other words , can she do the job? | |
| 7. | He has been in the hospital since Thursday. In other words , I don't think he'll be able to come to the meeting. | |

Paper-based concordance (Set 5)

As a result (of)

| | |
|----|---|
| 1. | Strange things aren't often seen or photographed. But people say that they have seen them. As a result , we want to find out more. |
| 2. | I dropped my cell phone, and as a result , it stopped working. |
| 3. | I tried to make a hole in a can with my scissors, but I missed. As a result , I cut myself, and the can flew away. |
| 4. | As a result of poor food and bad living conditions, many girls died. |
| 5. | These men joined the army, and gained higher ranks as a result of their hard work. |
| 6. | Edward missed the bus. As a result , he was late for class. |
| 7. | He was strong and healthy as a result of the strict training he did every morning. |

Meanwhile

| | |
|----|--|
| 1. | Candice is starting college in August. Meanwhile , she's preparing to move to her new dormitory. |
| 2. | We'll buy you some new clothes at the weekend, but meanwhile you'll just have to wear the old ones. |
| 3. | The doctor will see you again next Tuesday. Meanwhile , you must rest as much as possible. |
| 4. | The typhoon will hit the island this evening. Meanwhile , locals are being told to leave their homes before 4 o'clock. |
| 5. | But new solutions were still being developed and meanwhile students with personal problems had to seek each other's help. |
| 6. | I'll leave a note asking him to see me as soon as he returns. Meanwhile , you take the picture and photograph it |
| 7. | She just hoped that the situation would get better. Meanwhile , she felt she must try to be a good daughter, to be patient, and to search for a peaceful way out of their difficulty. |

On the contrary

| | |
|----|--|
| 1. | Cheating on exams isn't a good thing to do; on the contrary , it is a very big mistake. |
| 2. | Your girlfriend doesn't understand your English. On the contrary , she understands mine very well. |
| 3. | "You said the film was exciting?". On the contrary , I almost fell asleep after the first 15 minutes!" |
| 4. | The crime problem has not disappeared. On the contrary , it seems to increase again. |
| 5. | I thought the ghost part of the movie would scare the children. On the contrary , that was their favorite part. |
| 6. | She didn't seem angry by the comments; on the contrary , she seemed to enjoy them. |
| 7. | She does not hate playing crossword; on the contrary , she quite likes it. |

Paper-based concordance (Set 6)

In contrast

| | |
|----|--|
| 1. | In contrast to his parents who love watching movies, Nash enjoys travelling. |
| 2. | This month is very cold, in contrast to hot weather of last month. |
| 3. | Golf is considered a game for the rich, in contrast to football, which can be enjoyed by anybody. |
| 4. | There is a remarkable drop in the sale of printed books in contrast to Ebooks which are selling quite well. |
| 5. | Canned food is expensive. In contrast , fresh food is a lot cheaper. |
| 6. | Life in New York is very fast; in contrast , life in India is more relaxing. |
| 7. | Last year, it rained the whole of May. In contrast , June was a very dry month. |

Once

| | |
|----|--|
| 1. | Don't be afraid. Once you try, you'll see that there's nothing to be afraid of. |
| 2. | Once the two men had decided where to go, they got back into their cars and started their trip again. |
| 3. | But once the idea had come into her mind, she could not completely forget it. |
| 4. | Once she was married, she left work to help her mother and never went back. |
| 5. | I will comment further on this once I have had a chance to go through everything myself. |
| 6. | The date of the next trip will be confirmed once people have indicated an interest in taking part. |
| 7. | You should have stopped boxing once you knew someone was getting hurt. |

Even if

| | |
|----|--|
| 1. | He decided to tell his mother, even if Hu wouldn't like it. |
| 2. | Even if Elinor was in trouble, she would never have jumped out of a window. |
| 3. | But she hadn't wanted to stay in a tourist centre, even if it was beautiful. |
| 4. | So even if she wasn't in, I could go into her house any time. |
| 5. | If you know something that will help a murder case, you can't keep quiet, even if you think you're in danger. |
| 6. | For example, a yellow taxi must take a passenger to any part of the city, even if it is dangerous. |
| 7. | You should report to your insurance company soon after the accident, even if you do not intend to make a claim for repairs. |

Paper-based concordance (Set 7)

Despite

| | |
|----|---|
| 1. | The gasoline tank was three feet high and completely full. Despite its weight, she got it out of the garage and rolled it across the garden, making no noise on the grass. |
| 2. | Opposite him was a thin, nervous man in his late twenties, dressed in a shirt with long sleeves despite the heat, and wearing sunglasses. |
| 3. | Nothing seemed to go quite right despite all our preparations. |
| 4. | Sandra screamed and we both fell forward despite our seat-belts. |
| 5. | The doctor made a brave attempt to calm the situation, but despite this, things were not easy. |
| 6. | But I know that he doesn't love me, and despite that, he asks me to marry him! |
| 7. | I am determined to be happy despite your scolding! |

As if

| | |
|----|--|
| 1. | It sounds as if the government doesn't know what to do. |
| 2. | He had spoken to her as if she was a child. |
| 3. | You talk as if I have agreed to come with you. Go and good luck to you. |
| 4. | Look at those dark clouds. It looks as if it's going to rain. |
| 5. | Even though he is far away, when she reads this letter it will be as if he is there with her. |
| 6. | She had known Sara only a day or two and yet she acted as if Sara was her best friend. |
| 7. | Football is now a business, but players are expected to act as if it was still a sport. |

On the other hand

| | |
|----|--|
| 1. | Lisa was very tall and thin, with a sour face, dressed in very plain clothes, and with a cross hanging round her neck. Kate, on the other hand , was still pretty but very fat, and wore extremely fashionable clothes. |
| 2. | When my sister goes shopping, she mainly buys clothes and cosmetics. My brother, on the other hand , tends to buy computer games or gadgets. |
| 3. | Cyberspace can be an exciting environment to meet new people. On the other hand , it cyberspace has disadvantages. |
| 4. | You could go to the party this weekend. On the other hand , you could stay home and relax. |
| 5. | The steak was tough and overcooked. The spaghetti, on the other hand , was fantastic, and well worth the money. |
| 6. | That's when my father lost most of his money. My uncle, on the other hand , made a fortune of twenty thousand pounds. |
| 7. | Eliza was very tall and thin and dressed in very plain clothes. Georgiana, on the other hand , was still pretty but very fat. |

Paper-based concordance (Set 8)

Nevertheless

| | |
|----|--|
| 1. | Having decided not to go to college, he has nevertheless made a fortune as a very young man. |
| 2. | Inexperienced as a musician, she nevertheless took on the challenge, performing well on the stage. |
| 3. | While this was a comfortable win for the team, nevertheless they had to train hard for it. |
| 4. | It was a story already well aired in April, but worth repeating nevertheless . |
| 5. | He was born with only one leg but nevertheless became a great athlete in his teens. |
| 6. | The dogs are guarded around the house, but robberies occur nevertheless . |
| 7. | Most marriages fail after between five and nine years. Nevertheless , people continue to get married. |

In addition to

| | |
|----|--|
| 1. | She asked if she could record the interview in addition to taking notes. |
| 2. | How many things are you doing right now in addition to running a restaurant? |
| 3. | In addition to his apartment in Vegas, he has a villa in Berlin and a castle in Scotland. |
| 4. | In addition to cutting jobs, the company has announced that its profits are low for this year. |
| 5. | In addition to doctors and nurses at the spot, extra ambulances will be on duty until midnight. |
| 6. | In addition to his wife Ann, he was accompanied by all three of his children. |
| 7. | In addition to her art work, Monica is known as a leader of World Health Organization. |

Hence

| | |
|----|---|
| 1. | The cost of transport is a major expense for an industry. Hence factory location is an important factor. |
| 2. | The president was attending the conference, hence all the extra security. |
| 3. | Jack is going away next this weekend, hence his anxiety to get his work finished. |
| 4. | She's just found out that she failed her exams, hence her bad mood. |
| 5. | She knew she could not win the tournament, hence her decision to withdraw. |
| 6. | The company lost a lot of money after the last project. Hence , the CEO was asked to resign. |
| 7. | Eating habits formed in childhood tend to continue into adult life, hence the importance of encouraging healthy eating from a young age. |

Paper-based concordance (Set 9)

Instead of

| | |
|----|---|
| 1. | I wish the school year was just starting instead of ending this week |
| 2. | He looked down on a hill called Tanbitches, but there were now only seven beech trees instead of ten. |
| 3. | I'm a bit busy, Phil. Can we go tomorrow instead of this evening? |
| 4. | And after a while, my father died, and we had to come to this small house with just one servant instead of four. |
| 5. | I've got a bad habit of letting things happen to me instead of deciding for myself what I want to do and, in the end, I'm the one who suffers. |
| 6. | Instead of turning south on Green Bay for Lake Bluff, I went on to Sheridan Road and turned left. |
| 7. | Maybe it's better for you to marry someone from your own country, instead of being with a man who lives such a different life. |

Unlike

| | |
|----|--|
| 1. | The advantage of a goat is that you can teach it to attack thieves. And, unlike other animals, it can eat anything. |
| 2. | Unlike his father who is very rude, this boy is very polite and sweet. |
| 3. | Brat began to tell himself that the horses he saw now must have an easy life unlike the hard-working horses he had been used to in America. |
| 4. | Unlike many Asian countries, Singapore has no campaign for birth control because the population is not reproducing itself very quickly. |
| 5. | It was a strange sound, unlike anything I had ever heard before. |
| 6. | Unlike most people in the office building, I don't come to work by car. |
| 7. | The party went well, unlike the previous year when very few people came. |

Eventually

| | |
|----|--|
| 1. | Anna meant to come back for her daughter, but the child never saw her mother again. Eventually her daughter ran away and became one of the homeless children after the Civil War. |
| 2. | Lara's whole life seemed silent without her husband. Her brightest hopes and dreams had drifted away. But eventually her husband wrote from the battlefield. |
| 3. | At first Mr. Bennet had refused to allow his youngest daughter, Lydia, ever to enter his house again, but eventually his wife persuaded him to receive Lydia and her husband after the wedding. |
| 4. | Taking one of the roads, I eventually found a small village. |
| 5. | He sat down and looked at the boys in silence. Eventually he spoke. |
| 6. | Fagin did not want to give Sikes any money, but they eventually agreed on an amount. |
| 7. | John stayed in the library for a few minutes after Hu had left. He tried to think. Eventually , he made a decision. |

Paper-based concordance (Set 10)

As well as

| | |
|----|---|
| 1. | For public appearances, she had to wear clothes that were comfortable, as well as beautiful. |
| 2. | He experienced the silence with his eyes as well as his ears. |
| 3. | So Julian Giffen enjoyed hunting as well as fishing. |
| 4. | As a thinker, he believed strongly in the value of beauty, in life as well as in art. |
| 5. | There are slums in the country as well as in the city. |
| 6. | People are not always satisfied with a quiet life, and women as well as men need action. |
| 7. | You can buy newspapers like the New York Times and the Washington Post everywhere, as well as the magazines Time and Newsweek. |

Nonetheless

| | |
|----|--|
| 1. | It was late for the year for Sakura blossom but the park was beautiful nonetheless . |
| 2. | The disease may not affect him. Nonetheless , the doctors are examining it closely. |
| 3. | I don't think Adam has any behavioral problems. Nonetheless , I'll talk to him again tomorrow. |
| 4. | The rumor was denied by the government but nonetheless it influenced some vote. |
| 5. | Despite being younger than other players, Robin was nonetheless a valuable member of the team. |
| 6. | Security at the concert has been tightened since last year. Nonetheless , about 800 people managed to get in without tickets. |
| 7. | Her face is serious but nonetheless very friendly. |

Therefore

| | |
|----|--|
| 1. | We discussed the important question of where to spend the night. We had decided to sleep on the boat. Therefore we could stay there. |
| 2. | Flora feel quite unhappy. She decided, therefore , to cheer herself up by walking to a pub to have lunch in. |
| 3. | There is still much to discuss. We shall, therefore , return to this topic at our next meeting. |
| 4. | It was clear Amy was unhappy. Therefore , it comes as no surprise she has decided to resign. |
| 5. | Patrick would not have left her so upset, so uncertain, for all those years. Therefore , it couldn't be Patrick. |
| 6. | After the taxes and bills were paid, his daughter had not much money left. She decided, therefore , to stay with a friend. |
| 7. | She also writes about plants, and takes beautiful colour photographs of them. Therefore , she was interested in the wonderful flowers which grow in Greece. |

APPENDIX G

Exercise worksheet 1

ศึกษาข้อความข้างต้นและตอบคำถามต่อไปนี้

คำเชื่อม _____

1. ข้อความหน้าและหลังคำเชื่อมมีความสัมพันธ์อย่างไร

- ขัดแย้งกัน คล้อยตามกัน เป็นเหตุเป็นผลกัน ยกตัวอย่าง
- เลือกรายใดอย่างหนึ่ง แสดงเงื่อนไข แสดงลำดับเวลา แสดงการเปรียบเทียบ

2. ข้อความหน้าคำเชื่อมถือเป็น

- ประโยค วลี เป็นได้ทั้งประโยคและวลี

สังเกตได้จาก.....

3. ข้อความหลังคำเชื่อมถือเป็น

- ประโยค วลี เป็นได้ทั้งประโยคและวลี

สังเกตได้จาก.....

4. จากตัวอย่างข้างต้น นักศึกษาพบคำเชื่อมใดของประโยคบ้าง

- ต้นประโยค ตรงกลางระหว่างข้อความ ทำประโยค

5. เครื่องหมายวรรคตอนที่สามารถพบเห็นได้ในบริบทของคำเชื่อมคือ

- comma (,) full stop (.) semicolon (;)

6. ตำแหน่งของเครื่องหมายวรรคตอนที่พบในประโยคตัวอย่าง

- ติดกับคำเชื่อมด้านหน้า ติดกับคำเชื่อมด้านหลัง หลังคำเชื่อมโดยข้อความขึ้นกลาง ไม่พบเครื่องหมายวรรคตอน

7. นักศึกษาจะแปลคำเชื่อมนี้เป็นภาษาไทยได้ว่า.....

APPENDIX H

Exercise worksheet 2 (Set 1)

แบบฝึกหัด จงเติมคำเชื่อมที่ถูกต้องที่สุดลงในช่องว่าง

in order to unless otherwise

1. You won't know what to do _____ you watch the instruction video carefully.
2. I went home _____ feed my dog.
3. I'll never speak to him again _____ he apologizes to my mother.
4. The restaurant must be open, _____ there wouldn't be anyone inside.
5. I hope we haven't missed the last flight; _____, we'll have to wait another day.
6. I checked my bag three times _____ make sure that I had my money with me.
7. _____ contact him, I had to wait for ten minutes on the line.
8. You should wear warm clothes, _____ you'll catch a cold.
9. Please do not give that number to anyone _____ it's an emergency.
10. _____ pass the final exam, you should study hard.

Exercise worksheet 2 (Set 2)

แบบฝึกหัด ประโยคดังต่อไปนี้ใช้คำเชื่อมถูกต้องหรือไม่ หากใช้ผิดควรแก้อย่างไร

1. She always arrives on time. Her work, **furthermore**, has always been excellent.

ถูก ผิด

2. He has brown eyes. **Besides**, his children have green eyes. ถูก ผิด
-

3. He must be about 60, **whereas** his wife looks about 30. ถูก ผิด
-

4. He doesn't mind being unemployed now; **besides**, it gives him more time to learn other new skills. ถูก ผิด
-

5. The new president has earned the respect of all workers, **whereas** they know they can trust him. ถูก ผิด
-

6. She doesn't want to move to Phuket because it's expensive to live there; **furthermore**, she likes living in the north. ถูก ผิด
-

Exercise worksheet 2 (Set 4)

แบบฝึกหัด จงเชื่อมข้อความต่อไปนี้ด้วยคำเชื่อมและเครื่องหมายวรรคตอนที่เหมาะสม

Even though

In other words

Due to

1. She has studied English for many year. She cannot spell the word “conscious”.

.....

2. The weather was terrible and the plane took off two hours after the scheduled time. She was late for the meeting.

.....

3. The morning class was cancelled. The earthquake

.....

4. She didn't pay attention to the presentation. She was playing games.

.....

5. The workforce was reduced. Bad economy

.....

6. I was very tired. I went to a Halloween party.

.....

Exercise worksheet 2 (Set 5)

แบบฝึกหัด วงกลมล้อมรอบคำเชื่อมที่ถูกต้องในแต่ละประโยค

1. My little brother doesn't want to be punished; as a result/meanwhile/on the contrary, he sometimes lies to my mother.
2. I don't hate Emma. As a result/Meanwhile/On the contrary, I quite like spending time with her.
3. The school was damaged as a result/meanwhile/on the contrary of the storm.
4. You can set the table. As a result/Meanwhile/On the contrary, I'll go to pick up some food from the restaurant.
5. It isn't true that Janet is not good at music; as a result/meanwhile/on the contrary, she plays the violin very well.
6. The prime minister says crime is decreasing as a result/meanwhile/on the contrary of good police work.
7. On that day, American airplanes flew over Hiroshima and dropped the world's first atomic bomb. Most people agree that this terrible bomb ended World War 2. As a result/Meanwhile/On the contrary, many thousands of lives were saved.
8. They're still working on our bedroom decoration. As a result/Meanwhile/On the contrary, we're sleeping at our friend's apartment.

Exercise worksheet 2 (Set 6)

แบบฝึกหัด จงเติมคำเชื่อมที่ถูกต้องลงในช่องว่าง

In contrast In contrast to Once Even if

1. _____ you've tried their pizza, you'll go back for more.
2. Petrol prices have gone up this year. _____, car prices are decreasing.
3. Things usually get better sooner or later, _____ it takes a little while.
4. Our company lost \$8 million this year _____ a profit of \$6.2 million a year earlier.
5. I'm sure you'll be good friend _____ you get to know her well.
6. He's going to buy the farm _____ they raise the price.

Exercise worksheet 2 (Set 7)

แบบฝึกหัด ประโยคดังต่อไปนี้ใช้คำเชื่อมถูกต้องหรือไม่ หากใช้ผิดควรแก้ไขอย่างไร

1. Ellen likes living in a big city. My wife, **on the other hand**, prefers to live in a rural area. ถูก ผิด

.....

2. We just met, and he talked **despite** he knew me well. ถูก ผิด

.....

3. **Despite** applying for a hundred jobs, he is still unemployed. ถูก ผิด

.....

4. In many western countries, the elderly live in retirement homes. In Thailand, **on the other hand**, they live with their children and grandchildren. ถูก ผิด

.....

5. She likes to design clothes **as if** the fact that she found it very time consuming. ถูก ผิด

.....

6. The butterfly hit the window first with one wing and then with the other **on the other hand** it really was sending a message. ถูก ผิด

.....

Exercise worksheet 2 (Set 8)

แบบฝึกหัด วงกลมล้อมรอบคำเชื่อมที่ถูกต้อง

1. The situation is getting more and more difficult. Nevertheless / In addition to / Hence we will have to proceed carefully.
2. It's a difficult race. Nevertheless / In addition to / Hence, over 1,000 cyclists participate every year.
3. Nevertheless / In addition to / Hence to the twins, James has another son by his first wife.
4. The course is designed to improve students' communicative skills, nevertheless / in addition / hence to their academic skills.
5. The vegetables at the salad bar were very fresh and nevertheless / in addition / hence customer satisfactory.
6. I don't like him but I appreciate his hard work nevertheless / in addition / hence.

Exercise worksheet 2 (Set 10)

แบบฝึกหัด จงเติมคำเชื่อมที่ถูกต้องลงในประโยคต่อไปนี้

As well as Nonetheless Therefore

1. We still have a lot to do. _____, we have made some progress.
2. Our company sells goods which are manufactured locally, _____ internationally.
3. Those people have their umbrellas up and the roads are wet.
_____, it must have been raining for a while.
4. His bad attitude causes him to do poorly in school, _____ making it harder for him to make friends.
5. He cook very slowly sometimes, but the food are _____ tasty.
6. We heard the warning on the radio this morning, and _____ we took another route.

APPENDIX I

Pretest and posttest

Test of Logical Connectors

1. In the 1970s oil prices increased _____ economic and political factors.
 - a) yet
 - b) due to
 - c) unless
 - d) then
2. She enjoys working with a local company _____ I prefer to work with a foreign one.
 - a) owing to
 - b) in order to
 - c) as a result
 - d) whereas
3. The number of international flights has declined _____ poor weather conditions.
 - a) nevertheless
 - b) as a result of
 - c) as
 - d) despite
4. The weather this morning is excellent, _____ to yesterday's, making it more pleasant for walking.
 - a) whereas
 - b) in contrast
 - c) yet
 - d) unless
5. Mary had to work full-time _____ save all her money for studying in a university.
 - a) otherwise
 - b) as
 - c) in order to
 - d) as a result
6. Consumers are spending less money these days _____ reports that the economy is steadily improving.
 - a) actually
 - b) because of
 - c) although
 - d) despite
7. Kuala Lumpur International Airport will be closed _____ heavy rain.
 - a) therefore
 - b) because
 - c) due to
 - d) since
8. The firm intends to move its factory; _____, it will keep sales, marketing, and distribution here.
 - a) meanwhile
 - b) nevertheless
 - c) thus
 - d) furthermore

9. Our customers wanted us to deliver the furniture today _____ tomorrow.
- unless
 - in spite of
 - besides
 - instead of
10. A house near a public road may be preferable _____ a house next to an industrial area might not.
- namely
 - whereas
 - unless
 - so that
11. The number of cars is growing worldwide and _____ air pollution is increasing too.
- either
 - as a result
 - in fact
 - due to
12. We test our products for capacity _____ safety.
- namely
 - for instance
 - as well as
 - then
13. He invested his money in a project that did not _____ exist.
- otherwise
 - in fact
 - consequently
 - despite
14. The increases in productivity might be _____ new investment in existing industries.
- apart from
 - so
 - because
 - due to
15. The company lost 60 percent profit, _____ to last year, when it gained 21 percent.
- for instance
 - moreover
 - whereas
 - in contrast
16. Sam listens to English news every day _____ improve his listening skills.
- so that
 - in order to
 - however
 - because of
17. Doctors' salaries have risen , _____ nurses' pay has actually fallen.
- moreover
 - in spite of
 - whereas
 - accordingly
18. _____ of the accident, he was out of work for four months.
- As a result
 - Unless
 - Apart from
 - In contrast

19. He is highly interested in the engineering in cars, _____ new technologies that reduce pollution.
- due to
 - as well as
 - despite
 - because of
20. In the work situation, most tasks are _____ completed by groups, rather than by individuals.
- as
 - either
 - in fact
 - in contrast
21. _____ the low demand of Japanese cars, the Japanese car industry is still the largest in the world.
- So that
 - As a result
 - Despite
 - Instead of
22. _____ to most of the city's museums, the art museum is modern, bright and has a friendly atmosphere.
- In contrast
 - However
 - Owing
 - Consequently
23. We are a local company; _____, we can offer services beyond our area.
- nevertheless
 - accordingly
 - whereas
 - namely
24. Can't we order the products now _____ waiting until tomorrow?
- instead of
 - apart from
 - despite
 - owing to
25. What do we have to do _____ convince our customers to buy another package tour?
- whether
 - unless
 - in order to
 - in contrast
26. She was on holiday in southern France, a popular spot for British and other foreign tourists _____ French campers.
- as
 - for instance
 - namely
 - as well as
27. They told me it would be cheap but _____ it cost me nearly \$500.
- as well as
 - in fact
 - as a result
 - instead of

28. _____ a lot of progress this year, the directors said that there is still more progress that has to be made.
- a) Due to
 - b) Apart from
 - c) In order to
 - d) Despite
29. The firm has suggested that we advertise the new product on TV _____ on our websites.
- a) in contrast
 - b) either
 - c) instead of
 - d) because of
30. Although he is a quiet person, he was _____ approachable and we could go to him if we didn't understand something.
- a) whereas
 - b) if
 - c) owing to
 - d) nevertheless

PAPER 1

**Effect of Paper-based Concordance on Thai Low Proficiency English Language
Learners' Logical Connector Knowledge**

Effect of Paper-based Concordance on Thai Low Proficiency English Language Learners'
Logical Connector Knowledge*

ประสิทธิผลของการใช้คอนคอร์แดนซ์แบบกระดาษในการพัฒนาความรู้ด้านการใช้คำเชื่อมของผู้เรียนไทยที่
มีความสามารถภาษาอังกฤษต่ำ

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Abstract

This study compared the effect of two teaching methods i.e. inductive and deductive. Paper-based concordance was used as materials for participants in the inductive teaching group while the deductive teaching group used traditional teaching materials to learn logical connectors. It also sought learners' opinions towards the usefulness of paper-based concordance. Forty-seven Thai university undergraduates with low to intermediate English proficiency were divided into two experimental groups. Two data collection instruments were used: 1) identical pre and posttests ($\alpha=0.75$) and 2) a set of stimulated recall interview questions. Paired T-test was used to analyze the test scores. The results showed a significant improvement of within group comparison (paper-based concordance group $t=6.922$, $p=0.01$, $SD=4.7$) deductive teaching group $t=7.450$, $p=0.01$, $SD=3.91$). However, no significant difference was found in the between group comparison. Interview results revealed that concordance assisted them to gain intuitive knowledge about vocabulary and grammar usage. For future research, it may be interesting to further examine the effect of employing paper-based concordance using deductive teaching approach for low proficiency learners.

Keywords: paper-based concordance, data-driven learning, inductive teaching, logical connector, low proficiency learner

บทคัดย่อ

วัตถุประสงค์ของงานวิจัยนี้คือเพื่อเปรียบเทียบประสิทธิผลของวิธีสอนสองวิธีได้แก่ การสอนแบบอุปนัย และนิรนัย โดยมีกลุ่มทดลองทั้งหมดสองกลุ่ม คือกลุ่มที่เรียนแบบอุปนัยใช้คอนคอร์แดนซ์เป็นสื่อการเรียน

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ในขณะที่กลุ่มที่เรียนแบบนิรนัยใช้สื่อการเรียนแบบดั้งเดิมเพื่อเรียนคำเชื่อมภาษาอังกฤษ วัตถุประสงค์อีกประการหนึ่งคือเพื่อศึกษาความคิดเห็นของผู้เรียนที่มีต่อประโยชน์ของการใช้คอนคอร์แดนซ์ กลุ่มตัวอย่างคือนักศึกษาที่มีความสามารถด้านภาษาอังกฤษต่ำถึงปานกลางจากมหาวิทยาลัยแห่งหนึ่งในภาคใต้จำนวน 47 คน เครื่องมือที่ใช้เก็บข้อมูลมีสองชิ้นคือ แบบทดสอบก่อนและหลังเรียนที่เป็นข้อสอบชุดเดียวกัน ($\alpha=0.75$) และการสัมภาษณ์แบบกระตุ้นความจำ ผู้วิจัยใช้ Paired T-test เพื่อวิเคราะห์คะแนนที่ได้จากการทดสอบก่อนและหลังเรียน ผลของการวิเคราะห์การเปรียบเทียบคะแนนภายในกลุ่มของทั้งสองกลุ่มพบว่า ผู้เรียนมีพัฒนาการด้านการใช้คำเชื่อมที่ดีขึ้นอย่างมีนัยสำคัญ (กลุ่มที่เรียนด้วยสื่อการสอนคอนคอร์แดนซ์ $t=6.922$, $p=0.01$, $SD=4.7$ และกลุ่มที่เรียนด้วยวิธีดั้งเดิม $t=7.450$, $p=0.01$, $SD=3.91$) แต่ไม่พบความแตกต่างในการเปรียบเทียบระหว่างกลุ่ม ข้อมูลจากการสัมภาษณ์พบว่าคอนคอร์แดนซ์ช่วยให้ผู้เรียนมีความสามารถในการเรียนรู้คำศัพท์และไวยากรณ์ได้อย่างเป็นธรรมชาติ ในการทำวิจัยครั้งต่อไปควรศึกษาประสิทธิภาพของการใช้คอนคอร์แดนซ์เป็นสื่อการสอนแบบนิรนัยกับผู้เรียนที่มีความสามารถด้านภาษาอังกฤษต่ำ

คำหลัก: คอนคอร์แดนซ์แบบกระตาศ, การเรียนภาษาผ่านคลังข้อมูลภาษา, การเรียนแบบอุปนัย, คำเชื่อมภาษาอังกฤษ, ผู้เรียนที่มีความสามารถด้านภาษาอังกฤษต่ำ

Introduction

Grammatical knowledge is believed to be difficult to acquire among foreign language learners (Limtrairat & Aksornjarung, 2015) It has been found that common grammatical errors are subject verb agreement, determiners, tenses and logical connectors (Jenwitheesuk, 2009; Prommas & Sinwongswat, 2011) which are caused by the lack of awareness in grammatical rules, L1 interference, and the lack of knowledge in sentence formation. Such causes may result in writing errors including non-existence of verbs in clauses, producing run-ons, and misusing logical connectors (LC) semantically (Prommas & Sinwongswat, 2011).

There are several factors of the above problems. One factor can be teaching methods. According to Limtrairat and Aksornjarung (2015) and Nonkukhetkhong, Baldauf and Moni (2006), Thai teachers still use deductive teaching methods including translation, grammar explanation and vocabulary explanation even in the so called communicative language English teaching era. Inductive teaching method is a method that can help learners become more autonomous (Boulton, 2009a, Johns, 1991). It is more student-centered since learners are encouraged to construct their own knowledge which requires several cognitive skills such as “predicting, observing, noticing, thinking, reasoning, analyzing, interpreting, and reflecting” (O’Sullivan, 2007, p.277). Such skills may in turn lead to longer retention (Laufer & Hulstijn, 2001).

Data-driven learning or DDL is an example of inductive instruction, encourages learners to search a target language item through a search engine – corpus. After the search, learners form hypotheses about rules or meaning of the target language item from a large amount of

authentic data presented in concordance lines. Several studies (Chujo, Anthony, Oghigian & Uchibori, 2012; Garner, 2013; Koosha & Jafarpour, 2006; Smart, 2014) established that DDL was helpful in improving students' grammatical ability such as prepositional collocations, linking adverbials, and passive voice.

Many studies have found that DDL is more useful for advanced learners, which might lead to a misconception that DDL is not suitable for low proficiency learners because of the small number of studies conducted with low level learners (Boulton, 2010). The other reason could be that low proficiency learners have inadequate linguistic knowledge to analyze a large amount of data in KWIC format. Therefore, hands-on corpus work may not be practical for them, particularly the truncated concordance lines for vertical reading which is confusing to interpret or draw conclusions (Boulton, 2009b; Lamy & Klarskov Mortensen, 2012). Another concern over online concordance and low level learners is that DDL is more suitable for extending learners' linguistic experience (Cobb, 1999). Paper-based concordance is, thus, recommended as an alternative for low proficiency learners because it can be simplified or modified to create a more user-friendly materials (Lamy & Klarskov Mortensen, 2012).

Nowadays, graduates are required to take the TOEIC test for job applications. Low English proficiency learners have found it difficult to take the TOEIC test. Using paper-based concordance can be used to teach grammatical points inductively to low level learners which might result in learners' becoming more autonomous in learning. Thus, the present study aimed to investigate the effect of paper-based concordance on low English proficiency university students' grammatical knowledge with special reference to LCs. The results of this study might contribute to the literature about using paper-based concordance to enhance learners' grammatical items inductively. The following research questions were addressed:

1. Were there any differences between deductive teaching group and inductive teaching group after 15 weeks of paper-based concordance instruction?
2. What were the participants' opinions towards the use of paper-based concordance materials to induce LCs meaning?

Logical connectors

LCs are used to show cohesion and coherence. They logically connect ideas to indicate relationships of surrounding discourse units or to make a stronger persuasive claim (Mauranen, 1993). Logical connectors are divided into three categories namely coordinating conjunction, subordinating conjunction and transitions. Coordinating conjunctions are used in connecting two independent clauses and transforming them into a compound sentence. Subordinating conjunctions are used in creating complex sentences connecting a dependent and an

independent clause together. Transitions or linking adverbials are used in linking two independent clauses forming a compound-complex sentence.

The latter two seem to be the ones that most ELLs have problems with probably because there is more than one way to link sentences with these LCs, and there are many connectors that have similar meanings (Celce-Muria & Larsen-Freeman, 1999; Liu, 2008). Flowerdew (2001) and Garton (1996) found dissimilarities between the authentic usage of native speakers and the ways LCs are traditionally taught. Boulton (2009b, p.42) maintained that “for successful mastery of such items [LC], learners would seem to need something more than what can currently be found in standard materials”.

Previous studies also indicated the problem of misusing, overusing and underusing LC among high and low proficiency learners (Boulton, 2009b). One of the factors that could cause such usage problems is language transfer of learners’ mother tongue (Granger & Tyson, 1996). Habits of transfer of learners’ first language or direct translation play an important role for learners to misuse and overuse connectors. For example, Granger and Tyson (1996) found; the overuse of “indeed” by French speakers was caused by the assumption in the equivalent of the common connector of French “en effet”. In the study of Prommas and Sinwongsuwat (2011), Thai learners used the word “but” redundantly with other connectors such as *although* and *even though*. This could partly be because of the influence of their mother tongue that allows the constructions of “although...but”.

Paper-based concordance and DDL

Sinclair (1991) defined concordance as “a collection of the occurrences of a word-form, each in its own textual environment” (p.32). To get the concordance, searches need to be made on a website or software through a source of writing collections – corpus. One single query allows the searcher to obtain concordance lines in KWIC (Key Word in Context) format where the search word or phrase would appear in the middle of the concordance lines, highlighting the focused language items. Typographical cues such as italicizing, underlining, boldfacing or color-coding are also applied. Such emphasis in KWIC format may increase the saliency of the target word, and draw learners’ attention that may be needed for subsequent learning to take place (Leow, 1999; Robinson, 1995; Schmidt, 1990). This format allows learners to see usual surrounding words in authentic contexts.

Similar to online concordance, paper-based concordance also contains sentence samples in KWIC format retrieved from a corpus. Searches can be made in advance to provide authentic data for learners to examine. Printed concordances are beneficial and practical in several ways. First, they can be modified to suit low level learners’ linguistic background by removing confusing examples as well as applying typographical cues to emphasize target items (Boulton,

2010; Chujo, et al., 2012). Second, tasks are more time-efficient since the materials are pre-designed and ready to be understood. Using paper-based concordance allows learners who are not used to inductive learning to set their own pace in the concordance investigations (Turnbull & Buston, 1998). Moreover, it is more accessible and convenient to use concordance printouts in teaching or as preparation before moving on to hands-on concordancing (Lamy & Klarskov Mortensen, 2012).

Data-driven learning is a corpus-based learning, which requires learners to be active in their learning process. According to Boulton (2009a) the core elements of DDL is for learners to be able to go through some cognitive processes such as exploring concordance, detecting patterns, forming hypotheses and inducing rules on their own. Such process could lead to a better understanding and longer retention (Laufer & Hulstijn, 2001). This way of learning could help learners to become more autonomous outside classrooms (Johns, 1991).

Even though many studies have demonstrated that to a certain extent DDL is beneficial in language teaching, it is not yet widely embraced (Boulton, 2010). This may be because the approach is considered “mechanical, laborious, and tedious” (Chambers, 2007). In other words, studying one item requires learners to go through several processes such as searching queries using computers, observing concordance lines and hypothesizing. To make the lessons less tedious, it is suggested that DDL activities should take no more than 30 minutes in each class (Whistle, 1999). The tasks assigned should be various, and not require learners to rely too much on concordancing (Allan, 2006).

Guided induction for using concordance

In addition to learning LCs from concordance printouts, low level learners and beginners may also need teacher guidance. A proposed guided teaching approach includes four stages in teaching, namely illustration, interaction, intervention and induction (Carter and McCarthy, 1995; Flowerdew, 2009).

Illustration, the first “I”, is the first stage in which learners are exposed to authentic data in concordance lines. The concordances serve as language input so that learners can observe salient target forms. Then, the second “I” stage, interaction helps raise learners’ consciousness through class activities. With the activities, learners are encouraged to discuss or share ideas so that they can form their hypothesis on the target language items. However, low level learners might need teacher intervention to provide hints or prompt questions to help them form hypotheses. The hint could be “Do you notice any difference in the subjects for was decreased and has decreased?” (Flowerdew, 2009 p. 407). The last important step is induction or the step that learners discover forms and meanings of the target items.

Methodology

The data was collected both quantitatively and qualitatively. The quantitative data was obtained from scores of pretests and posttests to investigate the difference of learners' ability in using the target LCs while the qualitative data was obtained from stimulated recall interviews.

1. Participants

The participants of this study were taken from two intact groups who enrolled in an "Introduction to English Writing" course at a university in southern Thailand. They were 3rd and 4th year students aged 21-22 years old from different faculties. Group one consisted of 30 students, and group two 34 students. After taking a pretest, only 20 from group one and 27 from group two totaling 47 were chosen as the participants. Thirteen of them were male and 34 were female. Group one was assigned as paper-based concordance group (PC group), and group two was assigned as deductive group (DT group). Their proficiency was classified to be at the elementary to pre-intermediate level based on the online placement test results (www.hse.ru/data/917/332/1228/tests%20of%20english.doc, 2016). None of them knew about language corpora or paper-based concordance prior to the study.

2. Instruments for preliminary stage

2.1 Placement test. A free online placement test was used to judge learners' proficiency. The test contained 100 multiple choice questions focusing mainly on grammar. The test lasted one hour. The criteria are as follows: 0-20 points=below Elementary, 21-35 points=elementary, 36-60 points=pre-intermediate, 61-85 points=Intermediate, 86-100=upper Intermediate.

2.2 Vocabulary assessment form. The form was adapted from the Vocabulary Self-assessment Scale of Honigsfeld and Dodge (2016). It was a four-scale questionnaire asking learners to assess their LC knowledge ranging from *I have never heard or seen this word before* to *I know this word and I am sure I can use it correctly*. The form, translated into Thai, was used to identify 10 unknown target LCs out of 30 uncommon LCs. The 10 target LCs were *in order to*, *whereas*, *due to*, *despite*, *instead of*, *as well as* (subordinating conjunctions), *in fact*, *as a result*, *in contrast*, and *nevertheless* (transitions).

3. Instruments for pre-experimental stage

3.1 Grammar revision handouts. The handouts were for reviewing basic grammatical aspects necessary for learning LCs inductively, which included part of speech, verb phrase, noun phrase, adjective clause and noun clause and some exercises. The revision took seven sessions.

3.2 Concordance training handouts. The handouts were for familiarizing the PC group with concordance lines in KWIC format as well as introducing DDL method i.e. encouraging them to discuss and observe grammatical aspects (e.g. logical relationships of the messages surrounding the LC, punctuation marks, and whether the messages are clauses or phrases), interpreting meanings, and hypothesizing. The handouts contained concordance lines in KWIC format and exercises. In total, three handouts were used for three training sessions.

4. Instruments for experimental stage

4.1 Logical connector handouts. The handouts for DT groups contained 10 sets of LC. Each set consisted of three LCs (two LCs and one target LC). Each handout comprised two parts, namely detailed explanation and exercises. The explanations were in L1 concerning its grammatical usage along with sentence samples. Exercises were constructed using the sentence samples from the concordance of the PC group. They contained 10-15 items.

Figure 1. Example of paper-based concordance handouts

| Logical Connectors (Set 1) | |
|----------------------------|---|
| In order to | |
| 1. | I love listening to the sound of rain in order to fall asleep easily. |
| 2. | I set up this blog in order to keep my friends and family informed of my time in Hanoi. |
| 3. | You must set up an online account in order to view, save and print documents. |
| 4. | You have to find a job and apply for a work permit in order to stay in this country. |
| 5. | In order to identify if the rice is real or fake, you should boil it. |
| 6. | He came home early in order to see his children before they all went to bed. |
| 7. | Soon you will receive an email, which you need to confirm in order to complete your registration process. |
| Unless | |
| 1. | Unless some extra money is found, the business will close. |
| 2. | Don't visit at home unless it's absolutely necessary. |
| 3. | Unless the weather improves, we will have to cancel the football match. |
| 4. | Don't use smartphones during class unless you get my permission. |
| 5. | Unless it rains, we'll go to the beach tomorrow. |
| 6. | You can't play a computer game unless you finish your homework. |
| 7. | Unless she had permission from her parents, she wouldn't go abroad alone. |
| Otherwise | |
| 1. | Ben is not motivated by money, otherwise he would have quit the job. |
| 2. | You'll have to go now, otherwise you'll miss your English class. |
| 3. | Maria must have been very sick, otherwise she'd be here by now. |
| 4. | Write it down in your notebook, otherwise you'll forget it very soon. |
| 5. | My friend has to listen to soft music for a while, otherwise she can't sleep. |
| 6. | I have to say this before I start working otherwise I'll forget. |
| 7. | Thank you for telling me about the concert being cancelled. Otherwise, I'd have travelled all the way to Bangkok for nothing. |

4.2 Paper-based concordance. One page of the concordance printouts contained the same set of the three LCs from the DT group. Each printout contained seven pre-selected

concordance lines of each LC, totaling 21, which were selected from online dictionaries corpora and an online corpus from www.lextutor.ca (e.g. Graded Readers, Brown). The concordance lines were simplified to suit learners' proficiency. Unlike examples of many online concordancers, the sentence samples were single complete sentences listed in tables as shown in Figure 1.

4.3 Exercise worksheets. Two different exercise worksheets were designed for the interaction and induction phases of PC group. Worksheet 1 contained seven questions serving as a tool to guide learners to induce correct meaning of LCs by studying grammatical aspects as trained in the pre-experimental stage. Worksheet 2 contained an exercise of 6-10 items and was made into 10 versions for 10 sets of LCs containing various tasks such as gap-filling, error correction and sentence linking. Both worksheets were planned to be completed within 30 minutes.

5. Data collection instruments

5.1 Pre and posttests. The tests were constructed based on the TOEIC test format of part V "Incomplete Sentences", that is, gap-filling test items with four choices. The stems were adapted from existing online dictionary corpora. The subject matter of the test items was also similar to the ones in TOEIC. Both pre and posttest were identical ($\alpha=0.75$).

5.2 Stimulated recall interview. To investigate participants' inductive learning process, stimulated recall interviews were conducted in Thai using paper-based concordance, Worksheet 1 and 2 as the stimulators. Participants were interviewed in pairs for 20-30 minutes. The examples of the questions were: *Was KWIC format useful in learning the connectors?*, *What was the first thing you did when you got the concordance printouts?*, and *How did you choose the sentence samples to translate?*

6. Procedures

The study was carried out for one semester. The two-hour class met twice a week. However, the teacher researcher was responsible for teaching LCs for the last 30 minutes. The total number of experimental sessions was 25 classes. The research procedures were divided into four stages as follows:

Preliminary Stage. In the first stage, a free online English placement test was administered for one hour. After taking the test, the participants were asked to fill in the vocabulary assessment form.

Pre-experimental Stage. This stage consisted of three parts: pre-test, grammar revision, and the concordance training. Firstly, the participants took a pre-test lasting 45 minutes. Then, in the next seven sessions, the researcher reviewed necessary grammatical items. The concordance training was three sessions long.

Experimental Stage. The experimental stage comprised 12 sessions. For DT group, the researcher used the deductive teaching approach throughout the treatment to explicitly explain in L1 all rules and meanings of the target LCs. After individual participants completed the exercises, the researcher provided answers and detailed explanation, and learners were allowed to take the handouts home. The teaching approach for the PC group, on the other hand, was more student-centered. In that, the researcher employed 4Is instruction. The participants were asked to work in pairs throughout the whole course.

For each set of LC learning, in the illustration phase, participants were required to observe the structures of sentence samples, and then discuss in interaction phase to complete Worksheet 1. After that, in the induction phase, they collaboratively induced the meaning of the target LCs to complete the exercises on Worksheet 2. At the same time, the researcher intervened but only when she noticed that the participants were struggling with inducing meaning of LCs. However, this intervention phase was optional. When the participants finished doing the exercises, the researcher provided answers by explaining the usage and the meaning of the LCs. The handouts and worksheets of this group were collected by the researcher for further analysis.

Post-experimental Stage. In this stage, all the participants took immediate posttest for 45 minutes. Subsequently, two weeks after that stimulated recall interviews were conducted. Only six pairs of participants who took part in all learning sessions were interviewed.

Results

Due to the small size of participants from both groups, it was necessary to test the normality of the distribution of pretest scores before employing independent T-test. The results revealed that the scores distributed normally.

The results in Table 1 showed that the pretest scores of both groups were not different ($t=1.778$, $p=0.082$) indicating that the participants had the same level of proficiency. Posttest scores were used to compute between group and within group comparison. For within group comparison, the results of Paired t-test showed significant increases in the posttest scores of both groups. That is, the score of the PC group increased from 9.65 in the pretest to 14.50 in the posttest with 4.85 of scores difference ($t=6.922$, $p=0.01$). Likewise, the score of the DT group increased from 8.22 in the pretest to 14.11 in the posttest with 5.89 of scores difference ($t=7.450$, $p=0.01$).

For between group comparison, the difference of posttest scores was not significant ($t=0.309$, $p=0.76$) with small effect size (Cohen's $d = .092$). The gain score of the DT group (27.04%) was slightly higher when compared to the PC group (23.83%). The results suggested that paper-based concordance instruction was as effective as deductive instruction.

Table 1. Comparison of test scores between PC and DT groups using T-test.

| Test | PC (n=20) | | DT (n=27) | | Independent t-test | | | Effect size (Cohen's d) |
|--------------------------|-----------------|------|-----------------|------|--------------------|----|-------|----------------------------|
| | Mean | S.D. | Mean | S.D. | t | df | p | |
| Pre | 9.65 | 2.41 | 8.22 | 2.93 | 1.778 | 45 | 0.082 | |
| Post | 14.50 | 4.7 | 14.11 | 3.91 | 0.309 | 45 | 0.76 | 0.092 |
| Gains(Post-Pre) | 4.85 | 3.13 | 5.89 | 4.11 | 0.945 | 45 | 0.35 | |
| Paired t-test | t=6.922, p=0.01 | | t=7.450, p=0.01 | | | | | |
| Relative Gains Score (%) | 23.83 | | 27.04 | | | | | |

Table 2 summarizes the number of incorrect answers of the test produced by both groups. It can be seen that participants made similar mistakes on the posttest. To be specific, the top five problematic LCs of the PC group were *due to*, *in fact*, *despite*, *nevertheless*, *instead of*, and *in contrast*. Similarly, the five problematic LCs of the DT group were *in fact*, *as well as*, *despite*, *as a result*, and *in contrast*. Of all five LCs listed, the common mistakes were *in fact*, *despite*, and *in contrast*.

Table 2. Most frequent mistakes in the posttests made by DT and PC groups

| PC group | | | | DT group | | | |
|----------|------|-------------------|---|----------|------|-------------------|---|
| Rank | Item | Logical connector | Number of participants making mistakes (n=20) | Rank | Item | Logical connector | Number of participants making mistakes (n=27) |
| 1 | 14 | Due to | 18 | 1 | 20 | In fact | 22 |
| | | | | | 22 | In contrast | |
| 2 | 13 | In fact | 17 | 2 | 28 | Despite | 21 |
| 3 | 6 | Despite | 16 | 3 | 6 | Despite | 20 |
| | 8 | Nevertheless | | | 13 | In fact | |
| 4 | 24 | Instead of | 15 | 4 | 19 | As well as | 19 |
| | 28 | Despite | | | 26 | As well as | |
| 5 | 22 | In contrast | 14 | 5 | 11 | As a result | 18 |

From the data available, Table 3 shows the number of students of PC group making mistakes in all exercises. It can be seen that the students had difficulties with *in fact*, *despite*, *instead of* and *in contrast* when compared to other LCs.

Table 3. Most frequent mistakes in the exercises made by PC group

| Rank | Logical connector | Number of participants making mistakes in the exercises (n=20) |
|------|-------------------|---|
| 1 | Due to | 2 |
| 2 | In fact | 7 |
| 3 | Despite | 7 |
| | Nevertheless | 4 |
| 4 | Instead of | 8 |
| 5 | In contrast | 6 |

Regarding the usefulness of paper-based concordance lines, the results of stimulated recall interviews showed that KWIC format in the concordance was helpful in increasing LC knowledge. They allowed learners to see more examples than when they studied grammar through traditional methods. The variety of the sentence samples helped broaden their knowledge in terms of sentence patterns as to whether the LCs can be followed by a phrase or a clause and that some of them can be placed in three different ways (i.e. sentence-initial, medial, and final position). These points can be seen in the following excerpts:

I could see many examples. Normally, I don't see this many when learning one word...
Now I know the connectors can be used in many ways.

(Pattharawadee*, interviewed on the 30th November 2016)

It was quite easy to notice different positions of each connector and their punctuation marks.

(Rattapong*, interviewed on the 1st December 2016)

The structure was clearer to see with this format... It was very useful. Usually I'm not aware of the types of messages in front of the connector. Whether they are phrases or clauses, I never notice them... This format was quite easy to find subjects and verbs in the surrounding clauses too.

(Teeraphat*, interviewed on the 30th November 2016)

Learners also reported that having many sentence samples in their hands helped them induce LCs' meaning better. In other words, they can rely on their intuition to decide L1 meaning of each LC. In addition, they were able to refer to an easier concordance lines when they could not translate the more difficult ones. These points can be seen in the following excerpts:

*Pseudonym

I think it's good to have many sentences. They were helpful when we were not sure of the Thai equivalence of a connector... We can compare several Thai words for one connector and see how they sound...

(Anticha*, interviewed on the 9th December 2016)

If there was only one example per connector, and we cannot understand the meaning of the sentence. Then, that would be the end of the story... Seeing one connector in one position makes us think that that is the only way of using connector... Because our background knowledge is poor, we wouldn't know that a connector can be place in other positions.

(Pongpob*, interviewed on the 28th November 2016)

Discussion

It can be concluded from the results above that the ability in using LCs of both groups improved significantly after the treatment. However, whether deductive or inductive instructions was more effective is still inconclusive. The LCs that were found to be problematic for PC group are *due to*, *nevertheless*, *instead of*, *in fact*, *despite*, and *in contrast*. The findings of this study are in accordance with the study of Boulton (2010) who found that paper-based concordance instruction is as effective as deductive methods for French learners.

There are four possible reasons to explain why the participants in both groups demonstrated similar learning outcomes. First, the DT group was already familiar with deductive teaching. That is, teachers explicitly explain each grammatical item point by point along with few examples, and ask students to do grammatical exercises. In contrast, PC group might not be familiar with inductive instruction because Thai students, like students in many Asian countries, have been used to deductive teaching (Nonkukhetkhong et al., 2006; Yoon & Hirvela, 2004). In this study, the PC group were required to go through corpus-based activities on their own and were allowed to consult the teacher when encountering difficulties only.

Second, paper-based teaching materials were also novel to the learners. This could be difficult for any learners who have been used to deductive instruction regardless of their proficiency. Therefore, being exposed to new teaching methods and materials simultaneously would even be more difficult for low proficiency learners. As argued by Boulton (2010), even in perfect learning conditions, it is unreasonable for low proficiency learners to better understand the lessons taught by inductive method than in a traditional classroom setting.

Another reason could be the adoption of intervention phase as optional. Proposed by Flowerdew (2009), intervention should be done to providing hints to learners so that their problems are eliminated. It goes without saying that low proficiency learners need more help from teachers. In this study the teacher intervened only when learners asked. In fact they might

have needed more teacher attention. According to Kirschner, Sweller and Clark (2006), a purely inductive approach is not suitable for DDL beginners with low proficiency because they have insufficient background knowledge to draw on (Kirschner et al., 2006) or otherwise they draw faulty conclusions (Boulton, 2010).

Although it was suggested by Whistle (1999) and Allan (2006) that corpus-based lessons should not last longer than 30 minutes because it might result in boredom, in this study, the participants were low proficiency learners and they had only 30 minutes to learn new language items from paper-based concordance. According to Cobb (1999), concordance is more suitable for learners to broaden their linguistic repertoire rather than establishing new knowledge.

Looking closely at the mistakes in the posttest, it can be seen that over half of the underused LCs were categorized under contrast (i.e. in fact, despite, in contrast, nevertheless, instead of). This problem was also found in the exercises. A plausible explanation for this is that it is quite uncommon among learners to be able to make sense of adversative statements because they appear too complicated. Altenberg and Tapper (1998), Granger and Tyson (1996), and Lei (2012) also found these adversative LCs underused in their studies.

Despite paper-based concordance to be problematic, it was found beneficial to a certain degree. A conclusion that could be drawn from the stimulated recall interviews was that KWIC format helped LCs become more noticeable to learners. Most of them reported that the bold-faced LCs of the concordance lines attracted their attention first, resulting in the ability in inducing LCs' meanings. It also helped them gain more grammatical knowledge because students were exposed to more examples than what they learned in deductive teaching. The result of this study was supported by Levy (1990) who maintained that providing multiple examples could help broaden learners' linguistic experience. In Boulton's study (2010), participants found concordance useful because concrete examples helped them gain intuitive knowledge about grammatical usage and vocabulary.

Conclusion and pedagogical implication

This study investigated learners' ability in learning LCs through the use of PC. Two different teaching methods were employed. The results suggested that both deductive and inductive methods were equally effective. The participants found paper-based concordance useful in increasing their ability to use LCs intuitively.

Pedagogical implications can be offered: 1) suitable class time for low-proficiency learners should be longer than 30 minutes; 2) the teacher should intervene more often, that is, while doing the exercises, the teacher should provide explanation after each exercise is completed; and 3) when choosing sentence samples from certain corpus, some corpus such as Graded Readers might contain easier vocabulary and grammatical structure, but it is highly

contextualized. Therefore, for low proficiency learners, concordance lines should not require too much background knowledge.

Recommendations for further research

For future research, it may be interesting to further examine the effect of employing paper-based concordance using deductive teaching approach for low proficiency learners. It is recommended to carry out experimental research which compares the effectiveness of using paper-based concordance to teach LCs using deductive methods and using traditional materials to teach LCs using deductive method.

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PAPER 2

**Co-construction of Grammatical Knowledge among Non-experts through
Paper-based Concordance**



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CO-CONSTRUCTION OF GRAMMATICAL KNOWLEDGE AMONG NON-EXPERTS
THROUGH PAPER-BASED CONCORDANCE

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Abstract

Drawing on social constructivism, this study examines how English language learners used paper-based concordance to co-construct L1 meaning of logical connectors. A group of 20 students from a university in southern Thailand was taught using inductive, data-driven learning approach for one semester. Their English proficiency level varied from low to pre-intermediate. Paper-based concordance was used as teaching materials for learners and their partners to induce rules and meanings of the target connectors. Audio recorders were used as instruments to collect verbal data arising during the process of inducing meaning of logical connectors. Qualitative data were collected from five pairs of learners. Transcripts containing 1,298 utterances were analyzed. From the analysis, five phases of knowledge co-construction were identified, namely translating, eliciting, requesting help from teacher, exploring and meaning discovering. Among the five, the three most frequent phases were eliciting, exploring and L1 discovering of meaning. Detailed analysis of the latter two phases revealed that over sixty percent of the discussion (123 utterances) was on interpreting the contexts surrounding each connector, and over sixty percent of discovering of meaning phase (158 utterances) showed the correct selection of L1 equivalent. Such findings indicate that learners with low English proficiency could, to a certain degree, induce L1 meaning of the target connectors. It is recommended that for deep level of learning to take place among learners with limited language experience, more teacher involvement during learners' co-construction process is vital.

Keywords: co-construction of knowledge, grammar, paper-based concordance, logical connector, university student





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Introduction

In the field of teaching, it is quite common to assign learners to work in groups or pairs. Sharing with and collecting information from others provides them opportunities to co-construct new knowledge through communication. Scholars such as Barnard (2002), Donato (1994), van Lier (1996), Vygotsky (1978) and Watanabe (2008) found this way of learning to be productive.

One of the teaching approaches involving learners figuring out linguistics features through examples is data-driven learning or DDL. It is a student-centered approach. The main concept of DDL is to present learners with authentic data from the concordance and allow them to form hypotheses after seeing and analyzing sentence structures and patterns. With a large amount of data on the concordance, learners may be able to inductively discover rules or usage related to the target words. This process of DDL could increase learners' awareness, noticing skill and learning autonomy which leads them to become better learners not only inside classrooms but also outside classrooms (Johns, 1991).

It has been claimed that hands-on DDL, the DDL that learners conduct their own search on computers, is appropriate for experts or more linguistically advanced learners rather than non-experts with low to pre-intermediate language proficiency. One reason, stated in Boulton (2010), is that non-experts might be overwhelmed by a large number of concordance lines searched. Some sample sentences might be difficult for non-experts to analyze or learn from, as they require both linguistic and background knowledge. Moreover, the truncated sentences could be confusing for non-experts to interpret or use them to draw linguistic conclusions. (Lamy & Klarskov Motensen, 2012).

To overcome problems of non-experts or beginners in using electronic concordance, introducing paper-based concordance (PC) could be more helpful. There are advantages for using PC as learning materials. First, the search can be done prior to the class by the teacher. This way he or she can also reduce the amount of the concordance lines by filtering the unrelated or complicated results (Chujo et al., 2012). Second, the materials can also be modified and pre-designed to suit non-experts' proficiency by providing extracted complete sentences rather than truncated concordance lines or replacing difficult words





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with words that learners are more familiar with. Finally, the use of PC could serve as an introduction for non-experts to practice before proceeding to hands-on DDL (Lamy & Klarskov Mortensen, 2012).

Social constructivism has been widely used in various disciplines including English language teaching. The majority of research has been conducted in writing classes. This study, therefore, could contribute to social constructivist theory by providing empirical results regarding the use of social constructivism. To be specific, the study aims to investigate whether there are any patterns of interaction in students' learning process and whether their co-construction of knowledge will be helpful in learning such grammatical item. Thus, the following research questions were addressed:

- 1) What patterns of interaction can be found in a non-expert ESL class?
- 2) Does the knowledge construction lead to successful learning of logical connector?

Social Constructivism

Developed by Lev Vygotsky (as cited in Walqui, 2006), social constructivism is a learning theory which believes that higher level of learners' cognitive ability can be achieved through social interactions, the process by which an individual act and react to other people around him. To Vygotsky, communication among people allows them to be part of an interactive ground, as they need to gather, organize and explore new information to construct meaning or knowledge (Ahn & Class, 2011). The knowledge emerging in each learner occurs twice; first, in the "interpsychological category" (between people i.e. social speech) and then, in the "intrapsychological category" (within a person i.e. private speech) (Vygotsky, 1978, p.128). In other words, both social and private speeches help shape each individual understanding (Barnard, 2002).

Successful learning can take place when a less knowledgeable partner (non-expert) is assisted by a teacher or more knowledgeable peer (expert). Wood, Bruner and Ross (1976) called the help or support provided by the more knowledgeable peer to "solve a problem, carry out a task, or achieve a goal" as scaffolding (p.90). Wood (1988) further stated that scaffolding is contingent, collaborative and interactive. First, it is contingent in terms of behavior, as an action can be influenced or depends on other actions to come. Second, it is collaborative in nature because the final outcome is jointly constructed. Finally, it is interactive when two or more individuals engaged mutually in one activity.





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Donato (1994) further expanded the notion of scaffolding to cover the relationship of those who are equally knowledgeable and participated in a shared task, attempting to solve a problem together by collecting or pooling each other's knowledge. This kind of scaffolding is called "collective scaffolding". It has been found that, through collective scaffolding, learners tend to perform better when working with peers than working alone (Donato, 1994; Ohta, 1995).

Studies related to collaborative activities in L1 settings (Higgins, Flower, & Petraglia, 1992; Keys, 1994) showed that working collaboratively helps developing reflective thinking, particularly when learners explain and defend ideas to their partner or peers, which in turn, could subsequently lead to learning. According to van Lier (1996), students can also learn from teaching others, as it requires them to construct their own knowledge clearer before explaining (Allwright, 1984). This can be illuminated by the notion of "exploratory talk" conceptualized by Wegerif & Mercer (1996) and Mercer (2000) that dialogues between peers show their critical thinking ability as they "engage critically and constructively with each other's ideas" through the act of asking questions, expressing opinions, agreeing or disagreeing, giving suggestions, (Mercer, 2000, p.98). To Wegerif and Mercer, this type of talk is productive.

Social constructivism in language classes

Using a sociocultural approach, Foster and Ohta (2005) investigated interactional processes that may be helpful for SLA. Twenty-one American college students who studied Japanese as a second language participated in the study. In groups of two or three, they were assigned to interview their partner by using the provided prompt questions related to studying abroad in Japan. The researchers recorded the interview, transcribed and coded learners' interactions and modified output. The results of a qualitative analysis demonstrated that learners supported their partner by showing interest in what their partner was saying, helping their partner when they struggled by finishing their sentences as well as encouraging them to continue.

Storch (2002) studied the nature of dyadic interaction among 10 pairs of adult ESL from a writing class for one semester. Their English proficiency was intermediate based on an ESL placement test of the university. Students were asked to work on three language tasks which are a short composition, an editing task, and a text reconstruction task. Pair talk was recorded in the





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second week of each task (i.e. when students already used to the tasks). Four different patterns based on characteristics of dyadic interaction were identified from the process of data analysis, namely collaborative, dominant/dominant, dominant/passive, and expert/novice. Results reveal that students seemed to maintain the same pattern of interaction throughout the semester regardless of the task. Transfer of knowledge were found in the collaborative dyad and expert/novice dyad the most, suggesting that these types of relationship between learners foster language learning, as exploratory talk and collaborative dialogue were found during their discussions.

To study the process and product of students' collaborative writing, Storch (2005) also conducted research investigating 18 ESL students who enrolled in a writing course in a university in Australia. Students were asked to write one or two paragraphs in pairs. The dialogues were recorded and analyzed qualitatively using seven codes that emerged from what students seemed to focus on, that is, *task clarification, generating ideas, language related episodes, structure, interpreting graphic prompt, reading/re-reading* and *other*. The results revealed that students spent most time on generating ideas. Most of them collaborated in composing the text by pooling their knowledge (collective scaffolding), and co-constructing ideas. In other words, they offered feedback, alternative means to write, and completed each other's ideas or contribution. Such help from their partner led them to produce more complex sentences linguistically and grammatically. Storch (2005) also added that learners sometimes helped each other in the form of explanation and reassurances.

To explore how proficiency difference would affect adult ESL learners' interactions, Watanabe (2008) conducted research focusing on nine Japanese learners who applied to a non-credit course in a Canadian university. Of nine students, three were assigned as core participants and the other six were non-cores. One core participant interacted with two non-cores (either more or less capable peers) through essay compositions. To revise and reflect target language usage, the completed essays were reformulated with the intention to maintain the original meaning. The original and the reformulated versions were given back to the participants so that they could compare and discuss the differences. Pair talk from the beginning of the composition task until the discussion part were audiotaped and video-recorded. The data was transcribed and coded in terms of language related episodes and patterns of interaction using the traits from Storch's study (2001). Regardless of proficiency differences, peers could provide opportunities for learning if working collaboratively.





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Methodology

This classroom-based study was carried out in an English course -Introduction to English Writing- offered for non-English major students at a university in Southern Thailand. The course is one semester long and aims to develop students' writing skills. The actual study consisted of two experimental groups (traditional and DDL teaching groups). For the purpose of this paper, we focused on DDL group only which comprised 20 students. Of the entire ten data sets, the data of five pairs were selected for closer analysis because they attended more than 80% of the entire course. Students attend the class twice a week; the first one and a half hour is for developing writing skill in general and the second half hour focuses particularly on grammar. Twenty students, aged 21-22 in their third and fourth years, participated in the study. They were from various faculties: Science, Engineering and Management Science. Prior to the study, the participants were required to take an online English grammar placement test; the scores indicated that their proficiency ranged from elementary to pre-intermediate. Without any experience of language corpora, all the participants were required to do grammar tasks by using paper-based or printed-out concordance to induce L1 equivalents of 10 LCs; seven are for contrasting ideas (whereas, despite, instead of, in contrast, nevertheless, in fact) three for cause effect relationship (due to, in order to, and as a result) and one for addition (as well as).

The first stage of data analysis was conducted by reading and rereading of the data rather than predetermining or labelling categories to impose them on the obtained data. The first researcher randomly read three transcripts containing the discussions of ten target LCs, totaling nine transcripts out of 50 transcripts (5 pairs × 10 tasks) and made notes on salient features. The second researcher also read and reread the same sets of transcripts to arrive at an agreement about the features. After several discussions and changes, patterns of interactions emerged from the final analysis were labelled: TRANSLATING, ELLICITING, REQUESTING HELP FROM TEACHER, EXPLORING, and DISCOVERING OF MEANING.

Research Instrument

An audio recorder program was used to record learners' interactions from the beginning to the end of every LC teaching. The lessons took place in a computer room where each computer has its own headphone with a microphone attached. To eliminate distractions, the participants were asked to wear the headphone at all time so that their discussions were recorded.





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Procedure

In the first week of the treatment, participants were asked to choose a peer who they could work with throughout the semester. In each class with their selected partner, participants went through four learning stages which known as 4Is instruction (Carter & McCarthy, 1995; Flowerdew, 2009). In the first I or Illustration, PCs were given for the participants to observe and study the surrounding nature of the target LC. Then, the participants discussed and share ideas related to the LC in the second I stage, Interaction. Participants who struggled to understand sentence samples or struggled to induce meaning were allowed to consult with the teacher any time in the third optional stage, Intervention. Once they finished discussing, the participants were asked to work on a grammar exercise in the fourth stage or Induction. At the end of each class, the teacher provided a detailed explanation concerning the rules and meaning of the target LCs.

Data Analysis

For content analysis, students' dialogues which were in Thai (English translation was provided in italics) were transcribed verbatim and analyzed qualitatively. In total, transcripts containing 1,298 utterances of five pairs of the participants were analyzed. The purpose was to find the pattern of interactions emerging during their LC knowledge co-construction. The first phase or code, TRANSLATING, contained dialogues showing that the participants tried to interpret the surrounding contexts of LCs by reading the chosen concordance line, and trying to get the overall meaning in Thai. In the following excerpt, meaning was proposed in lines 3-5.

T: (Participant reading a concordance line) *Instead of turning south on Green Bay for Lake Bluff, I went on the Sheridan road and turned left.*

P: *Instead of going south of Green Bay here? But actually we* (แทนที่จะไปทางใต้หรือของ Green Bay ตรงนี้ แต่เราจึงไปด้านซ้าย)

T: *We turned left.* (เราไปเลี้ยวซ้าย)

The second phase is ELICITING, the phase which participants discussed with their partners to get meaning of unknown words in the concordance line to move on in solving a task. The consultation may or may not result in the form of a question. In other words, it could also be in the form of incomplete statements. An example of ELICITING can be seen in line 2 of the excerpt below, as T was trying to find out the meaning of a word from P in order to understand the surrounding context of the connector *as-a result of*.





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T: (Participant reading a concordance line) He was strong and healthy as a result of the strict training he did every morning. *Does strict mean intense?* (Strict ฝึกเข้มงวด)

P: *Strict means tough.* (Strict ก็คือเข้มงวด)

T: *Oh. Yes, tough. Strict training.* (เข้มงวดคือ ฝึกอย่างเข้มงวด)

Third, all questions and statements addressing help directly to a teacher in order to overcome difficulties were labelled in the third phase as REQUESTING HELP FROM TEACHER. The role of the teacher in this phase is to provide hints, prompt questions, or explanation to the inconclusive issues among learners. An example of this phase can be seen in lines 5 and 9 the excerpt below.

W: *Teacher. In contrast and In contrast to have the same meaning, right? But it depends whether or not you want to include the word to? Is it like that or there are other rules?* (อาจารย์ครับ In contrast กับ In contrast to มีความหมายเดียวกันแต่อยู่ที่ว่าจะใส่ to หรือไม่ใส่ to ก็ได้ไหมครับหรืออย่างไร)

Teacher: *They have same meaning but they are used differently. You can have a look. See what comes after in contrast and in contrast to?* (ความหมายเดียวกันแต่วิธีใช้ต่างกัน ของหลังเกิด in contrast กับ in contrast to นำตามด้วยอะไร)

W: *Noun.* (Noun ครับอาจารย์)

Teacher: *That's right a noun or phrase. What about in contrast?* (ถูกต้องค่ะ นามหรือกลุ่มคำนาม แล้วถ้า in contrast อย่างเดียวล่ะ)

W: *Sentence.* (เป็นประโยค)

Teacher: *Yes, so they are used differently.* (นั่นแหละค่ะวิธีใช้ที่ต่างกัน)

This phase includes all interactive or argumentative conversations that were about meaning of a word or phrase, logical relationship between clauses, rejection or acceptance of an equivalence. In this phase, participants expressed their intention which was to take a stand or exchanging thoughts from their point of view. Dialogues in EXPLORING often contain explanation, opinion, question, and expression of agreement or disagreement. The excerpt below shows two participants (N and A) were discussing the meaning of the word *canned*. The sentence being discussed was "Canned food is expensive. In contrast, fresh food is a lot cheaper". A suggested N that the definition of *canned* might be cancer (line 2). Knowing that the definition was wrong, N rejected the proposed meaning and offered the correct word for cancer in English (line 3).

N: *Let's look at this one. What is canned?* (นี่เขายังไม่ได้ได้ canned คืออะไรล่ะ)

A: *Cancer? Cancer food* (มะเข็งโนน่ะ อานาคที่เป็นมะเข็ง)





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N: *No, that's cancer.* (ขี้มันมีใน cancer)

A: *Oh!* (อ่าาาา)

In the last phase, DISCOVERING OF MEANING, is the phase in which both participants came to the final conclusion of inducing L1 equivalent of the target LCs using their intuition to logically guessed the meaning of the LCs after understanding the concordance lines. An example of DISCOVERING OF MEANING of the target LC-in contrast- can be seen in line 2 of the excerpt below. A proposed a Thai equivalent immediately after being able to translate the whole concordance line. The sentence being discussed was -Life in New York is very fast; **in contrast**, life in India is more relaxing-.

A: It says life in New York proceeds quickly but life in India is more chill, relaxed.

In contrast (เห็นว่ากว่าการใช้ชีวิตอยู่ในนิวยอร์กมัน ใช้ชีวิตได้อย่างรวดเร็ว แต่ใช้ชีวิตในอินเดียมัน ง่ายๆ แลผ่อนคลายสบาย ในทางตรงกันข้าม)

N: Yeah, could be. (เออก็มันไม่ได้นะ)

After coding was finished, quantitative analysis was conducted to obtain frequency of instances of each phase. Each code was counted and calculated in percentage. Detailed analysis was conducted on the last two phases only (EXPLORING and DISCOVERING OF MEANING) because interactions occurring in these two phases can indicate the successfulness of knowledge co-construction. They showed the quality of participants' discussions in terms of their thinking process, how they arrived at the correct and incorrect meanings of the target LCs, and what caused them to choose such meaning.

Table 1. Coding schemes based on learners' learning process

| Phase | Definition | Indicator and Raw data |
|-------------|--|--|
| TRANSLATING | Conversation in attempting to interpret the concordance line as a whole or the surrounding contexts of a connector | - Statements indicating that a sentence or phrase is being read - Statements indicating that L1 meanings are being proposed For example T: (Participant reading a concordance line) Instead of turning south on Green Bay for Lake Bluff, I went on the Sheridan road and turned left. P: <i>Instead of going south of Green Bay here? But actually we</i> (แทนที่จะไปทางใต้ หรือ Green Bay ตรงนี้ แต่ว่าจริงๆแล้วนะ) T: <i>We turned left.</i> (เราไปเลี้ยวซ้าย) |





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| Phase | Definition | Indicator and Raw data |
|-----------|---|---|
| ELICITING | Drawing out definition of unknown words | <ul style="list-style-type: none"> - Statement asking for meaning of words - Yes/No questions - Incomplete statements <p>For example</p> <p>T: (Participant reading a concordance line) He was strong and healthy as a result of the strict training he did every morning. <i>Does strict mean intense?</i> (Strict ฝึกหัดเข้มงวด)</p> <p>P: <i>Strict means tough.</i> (Strict ฝึกหัดเข้มงวด)</p> <p>T: <i>Oh. Yes, tough. Strict training.</i> (เข้มงวดคือ ฝึกอย่างเข้มงวด)</p> |
| | Addressing help to a teacher | <ul style="list-style-type: none"> - Questions or statements requesting help directly to the teacher <p>For example</p> <p>W: Teacher. In contrast and In contrast to have the same meaning, right? But it depends whether or not you want to include the word to? Is it like that or there are other rules? (อาจารย์ครับ In contrast กับ In contrast to นี่มีความหมายเหมือนกันแต่อยู่ที่ว่าจะได้ to หรือไม่ได้ to ก็ต่างกันหรือว่ายังงั้น)</p> <p>Teacher: They have same meaning but they are used differently. You can have a look. See what comes after in contrast and in contrast to? (ความหมายเหมือนกันแต่ใช้ต่างกัน สองทีแรกคือ in contrast กับ in contrast to คำว่าความเกี่ยวข้อง)</p> <p>W: Noun. (Noun ครับอาจารย์)</p> <p>Teacher: That's right a noun or phrase. What about in contrast? (ถูกต้องค่ะ นามหรือกลุ่มคำนาม แล้วถ้า in contrast อย่างเดียว)</p> <p>W: Sentence. (เป็นประโยค)</p> <p>Teacher: Yes, so they are used differently. (เป็นประโยคที่วิธีใช้ต่างกัน)</p> |
| EXPLORING | Conversations in attempting to take a stand or exchanging thoughts from their point of view. They often concern meaning of words or concordance lines, logical relationship between clauses, and whether the proposed equivalents are acceptable. | <ul style="list-style-type: none"> - Explanation related to a word or sentence being discussed - Threads of conversation indicating different opinions or conflicting issues - Yes/No questions - Expression of agreement and disagreement <p>For example</p> <p>N: <i>Let's look at this one. What is canned?</i> (นี่เขาตั้งชื่อได้ canned คืออะไร)</p> <p>A: <i>Cancer? Cancer food</i> (มะเร็งไหมค่ะ อาหารที่เป็นมะเร็ง)</p> <p>N: <i>No, that's cancer.</i> (นั่นมันมะเร็ง cancer)</p> <p>A: <i>Oh!</i> (อ้อว่ะ)</p> |





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| Phase | Definition | Indicator and Raw data |
|------------------------|--|---|
| DISCOVERING OF MEANING | Using intuition to find and choose L1 equivalent | - Mentions of Thai connectors after discussing or interpreting meaning of the sample sentences For example A: It says life in New York proceeds quickly but life in India is more chill, relaxed. In contrast. (คำเปรียบเทียบกับชีวิตอยู่ในเมืองที่มัน ใช้ชีวิตได้อย่างรวดเร็ว แต่ใช้ชีวิตในเมืองที่มัน ชิลๆ และผ่อนคลาย ในทางตรงกันข้าม) N: Yes, could be. (ตอบเป็นไปได้นะ) |

Results and Discussion

The frequency of each phase was summarized in Figure 1. Among the five, the top three most frequent phases were ELICITING (33%), DISCOVERING OF MEANING (30%) and EXPLORING (23%). The frequency of the third phase, REQUESTING HELP FROM TEACHER, was the lowest (3%). The result suggested that the participants spend a large amount of time working collaboratively on their own, and relied less on teacher.

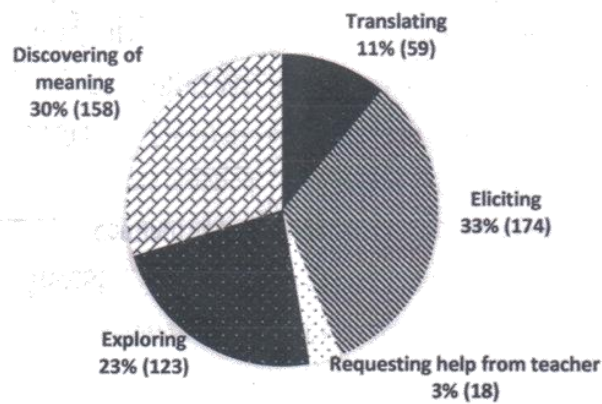


Figure 1. Percentage and frequency of the five learning phases

Even though ELICITING gained the highest percentage of frequency, mainly what the participants did was asking questions to find out word meaning. To examine the quality of participants' interaction, detailed analyses of the last two phases, namely EXPLORING and DISCOVERING OF MEANING were also conducted quantitatively. Table 2 shows topics emerging from the discussions on the three types of the target LCs by five dyads. Of all topics,



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participants devoted their time to figure out L1 equivalent of target LCs the most (38.9%), and over half of them were correct (59.2%). Meanings of unknown words or phrases, and overall meanings of sentence samples were the second-frequent topic for discussion, and about over half of them were correct (57.5%). By comparison, participants spent less time (26.1%) discussing logical relationship of clauses. However, the results revealed that the percentage of correct understanding was the highest (84.4%).

For, DISCOVERING OF MEANING, it is apparent that participants were able to induce L1 meaning of LCs showing cause and effect relationship better than contrasting (80% and 52.5%, respectively). The overall results indicate that participants successfully worked out logical relationship of cause effect better than showing their vocabulary knowledge.

Table 2. Detailed analysis of Exploring and Discovering of meaning phases

| Phase | Total | | Correct | | Incorrect | |
|---|-------|------|---------|------|-----------|------|
| | n | % | n | % | n | % |
| Exploring | | | | | | |
| Topics | | | | | | |
| - Logical relationship of surrounding clauses | 32 | 26.1 | 27 | 84.4 | 5 | 15.6 |
| - Meaning of words, phrases, or sentences | 40 | 32.5 | 23 | 57.5 | 17 | 42.5 |
| - L1 equivalence | | | | | | |
| - Other | | | | | | |
| Total | 49 | 39.8 | 29 | 59.2 | 20 | 40.8 |
| | 2 | 1.6 | 2 | 100 | - | - |
| | 123 | 100 | 81 | 65.9 | 42 | 34.1 |
| Discovering of Meaning | | | | | | |
| Types of LC | | | | | | |
| - Cause and effect | 45 | 28.5 | 36 | 80 | 9 | 20 |
| - Contrast | 99 | 62.6 | 52 | 52.5 | 47 | 47.5 |
| - Addition | | | | | | |
| Total | 14 | 8.9 | 10 | 71.4 | 4 | 28.6 |
| | 158 | 100 | 98 | 62 | 60 | 38 |





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In conclusion, the participants in this study spent a larger amount of time discussing among themselves rather than seeking help from teacher. The overall pattern of learners' interaction was collaborative, that is, they seemingly played symmetrical role in contributing ideas to achieve the task assigned. Their collaborative discussions consisted of both dyad interactions and self-consultations (private speech), as there were times when learners talk or ask themselves questions without inviting their partner to engage. Students' interaction involved explanations, requests, and suggestions. These types of interaction were also found in several studies (Donato, 1994; Swain, 2000; Wengerif and Mercer, 1996). It can be argued that their learning process was productive as it involved critical thinking process. To produce such interactions, the participants went through cognitive processes such as noticing and hypothesizing which enabled them to solve problems or build knowledge. In this case the problems are related to logic of the adjacent clauses and meaning of LC word which were constructed through logical discussions as exemplified in the excerpt below. The task is for the students to find the correct L1 equivalent of "nevertheless". The sentence being discussed were "He was born with one leg but **nevertheless** became a great athlete in his teens" and "The dogs are guarded around the house, but robberies occur **nevertheless**". Both learners, P and T, were able to collaboratively figure out the logical relationship without having much difficulty even though P seems to be more dominant, as she was the one who offered hypotheses and convinced T to agree with her. When looking at the roles of T, he seems to verbalize less than P. However, he actively responded to a suggestion of P by started reading the sentence sample immediately (line 9) and supplied the right definition of the word "robbery" in line 12. T also generated what Vygotsky (1986) called private speech in line 3 to guide himself to understand the sentence sample better. Throughout the conversation, he expressed agreement to P suggestions i.e. in line 7 concerning the logic of clauses and line 15 concerning the choice of lexis.





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P: *So it's like having the competence, right? Something like that? Become this become*

disabled person (ก็คือ ก็เหมือนมีความสามารถไหม ประมาณนั้นไหม กลายเป็น อันนี้ก็กลายเป็น คนพิการ)

T: *Become sportsperson athlete* (เป็นนักกีฬา athlete)

P: *Yeah. So it's opposite, right? Contrast? Even though he was born with one leg something like that* (ก็คือว่านั่นแหละ ก็คือตรงข้ามไหม ขัดแย้งไหม ถึงแม้ว่าจะเกิดมามีขาข้างเดียวอะไรอย่างเงี้ย)

T: *Yeah. It should be contrast.* (ใช่ น่าจะขัดแย้งนะ)

P: *But nevertheless? What about sentence number 6?* (But อย่างไรก็ตามหรือ ดุซันที่ 6 ไหม)

T: *The dogs what?* (The dogs อะไรนี่)

P: *Are guards guarding around the house but robberies. What is it?* (เป็นการ์ด รักษารอบๆบ้าน but robberies คืออะไรอะ)

T: *Burglar* (โจร)

P: *But nevertheless burglars can still get in. Nevertheless* (แต่อย่างไรก็ตามโจรก็ยังเข้ามาได้อะ อย่างไรก็ตาม)

T: *Yeah* (ฮืม)

Transcripts of the present study showed that learners were able to produce collective scaffolding to each other particularly when figuring out logical relationships of the surrounding clauses. However, with regard to linguistics ability, several discussions led to incorrect L1 equivalence of LCs. Learners seem to struggle to understand the meaning of sentence samples due to the lack of vocabulary knowledge. In the following excerpt, learners (N and A) were trying to figure out the meaning of "in contrast". They began by interpreting a sentence sample, and at the same time, equally take turns to express ideas. The sentence being discussed was "Canned food is expensive. **In contrast**, fresh food is a lot cheaper". In the beginning of the conversation (lines 1-2), both of them tried to figure out what *canned* means, and eventually gave up and moved on to figure out the rest of the sentence (line 5). A seems to perceive the word *fresh* as clean (line 7) leading them to another confusion. It can be seen that, without knowing the meaning of the vocabulary (i.e. *canned* and *fresh*) learners still collaborate actively.

N: *Let's look at this one. What is canned?* (นี่เขาซันนี่ก็ได้ canned คืออะไรอะ)

A: *Cancer? Cancer food* (มะเร็งไหมอะ อาหารที่เป็นมะเร็ง)





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N: *No, that's cancer.* (ซันนั้นมัน cancer)

A: *Oh really.* (อ่าจริง)

N: *Cancer cancer Canned food is expensive. This food is expensive, and then the food that*
(Cancer มะเร็ง canned food มันแพงๆอะ อาหารนี่มันแพง แล้วอาหารที่)

A: *Clean* (สะอาด)

N: *Clean. It's cheap. What is it?* (สะอาด มันถูก อะอะไรนี่)

From a closer look at their interaction, exploratory talk seems to appear in most of their conversations. Learners were able to scaffold each other to arrive at the correct logical relationship. However, there were several times when learners failed to interpret meaning of the whole concordance line. It is obvious that their learning process should not be confined to figuring out for L1 meaning among themselves. In other words, they still need guidance from the more-able i.e. teacher in this case.

Conclusion and Recommendation

With regard to pair work in ESL teaching, the findings of this research concerns the nature of peer collaboration and its effect on L2 learning. It has shown patterns of non-experts' learning process and their areas of difficulties during the experiment which lead to a few pedagogical implications as follow:

1. To use paper-based concordance to teach less advanced English language learners, teachers should provide them more help regarding linguistic input, both vocabulary and grammar.
2. The number of concordance lines can be reduced from seven to four or five because learners do not make use of all of them to complete the task.
3. Having bigger group size might result in learners sharing more helpful ideas.

Due to the small sample size, the findings of the present study are suggestions rather than generalization. For further research, it may be interesting to replicate this study by involving more number of pairs, adding more





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target connectors in terms of number and types of connecting words (e.g. conditional connectors, time and sequence connectors) as well as teacher's role in each class.

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List of Publications

Dankittikul, T. & Laohawiriyanon, C. (2017a). Effect of paper-based concordance on Thai low proficiency English language learners' logical connector knowledge. Manuscript submitted for publication.

Dankittikul, T. & Laohawiriyanon, C (2017b). Co-construction of grammatical knowledge among non-experts through paper-based concordance. Manuscript accepted for The 3rd AsTEN Conference: Teaching Competency Development: Issues, Innovations & Initiatives

