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**การพัฒนาบทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษ
เรื่องโครงสร้างประโยคภาษาอังกฤษ**

**DEVELOPMENT OF COMPUTER-ASSISTED LANGUAGE LEARNING
ON ENGLISH SENTENCE STRUCTURES**



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**DEVELOPMENT OF COMPUTER-ASSISTED LANGUAGE LEARNING
ON ENGLISH SENTENCE STRUCTURES**



**A THEMATIC PAPER SUBMITTED IN PARTIAL FULFILMENT
OF THE REQUIREMENT FOR THE DEGREE OF
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2007

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หัวข้อสารนิพนธ์

การพัฒนาบทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษ
เรื่องโครงสร้างประโยคภาษาอังกฤษ

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2550

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บทคัดย่อ

งานวิจัยฉบับนี้มีวัตถุประสงค์ เพื่อพัฒนาบทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษ เรื่องโครงสร้างประโยคภาษาอังกฤษ โดยสร้างเนื้อหา แบบทดสอบวัดผลสัมฤทธิ์ทางการเรียน และบทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษ และประเมินคุณภาพของเนื้อหา แบบทดสอบวัดผลสัมฤทธิ์ทางการเรียน และบทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษ ซึ่งเป็นสื่อการสอนที่มุ่งเน้นผู้เรียนระดับกลางจนถึงระดับสูง

เนื้อหาบทเรียนอ้างอิงจากหนังสือ 'Writing Academic English' ของสูง และ โอชิม่า (2006) และ 'A University Grammar of English' ของเคิร์ก และกรีนบาม (1973) แบบทดสอบวัดผลสัมฤทธิ์ทางการเรียนก่อนการคำนวณค่าความสอดคล้องของข้อคำถามกับจุดประสงค์การเรียนรู้ เป็นข้อสอบปรนัยแบบ 4 ตัวเลือก มีทั้งหมด 100 ข้อ ประกอบด้วยแบบทดสอบระหว่างเรียน 62 ข้อ และแบบทดสอบหลังเรียน 38 ข้อ โปรแกรมที่นำมาใช้ในการพัฒนาบทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษ คือ มาโครมีเดีย ออเธอร์แวร์ 7.0

การประเมินคุณภาพของเนื้อหาใช้ค่าเฉลี่ยและค่าส่วนเบี่ยงเบนมาตรฐาน การประเมินคุณภาพของแบบทดสอบวัดผลสัมฤทธิ์ทางการเรียนใช้ค่าดัชนีความสอดคล้องของข้อคำถามกับจุดประสงค์การเรียนรู้ และการประเมินคุณภาพของบทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษใช้ค่าเฉลี่ยและค่าส่วนเบี่ยงเบนมาตรฐาน

ผลการวิจัย คือ

1. ผู้เชี่ยวชาญทางการสอนภาษาอังกฤษได้ประเมินว่า เนื้อหา มีคุณภาพสูง
2. ผู้เชี่ยวชาญทางการสอนภาษาอังกฤษได้ประเมินว่า แบบทดสอบ โดยส่วนใหญ่มี

ความสอดคล้องของข้อคำถามกับจุดประสงค์การเรียนรู้ โดยมีค่าดัชนีความสอดคล้องระหว่าง 0.5-1

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ข้อคำถาม 42 ข้อถูกเลือกมาใช้เป็นแบบทดสอบระหว่างเรียน และข้อคำถาม 20 ข้อถูกเลือกมาใช้เป็นแบบทดสอบหลังเรียน

3. ผู้เชี่ยวชาญทางด้านเทคโนโลยีทางการศึกษาได้ประเมินว่า เทคนิคการผลิตสื่อของบทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษมีคุณภาพสูง



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ABSTRACT

The purpose of the study is to develop computer-assisted language learning (CALL) on English sentence structures. The construction of the contents, the achievement tests and the CALL on English sentence structures with the evaluation of the quality of the contents, the achievement tests and the CALL on English sentence structures was specifically made for upper-intermediate to advanced English language learners.

The contents were based on *"Writing Academic English"* written by Hogue & Oshima (2006) and on *"A University Grammar of English"* written by Quirk & Greenbaum (1973). The total number of 4-multiple-choice test questions before the IOC calculation was 100 divided into 62 items for the 4 sub-tests and 38 items for the post-test. The program 'Macromedia Authorware version 7.0' was used to construct the CALL.

Arithmetic mean ($\bar{X}$) and standard deviation (S.D.) were used to analyze the quality of the contents. The Index of the Item-Objective Congruence (IOC) was calculated in order to evaluate the congruence between the achievement tests and the objectives. Arithmetic mean ($\bar{X}$) and standard deviation (S.D.) were used to analyze the quality of CALL on English sentence structures.

The results of the study were as follows:

1. The experts in the field of English teaching rated the quality of the contents at a high level.

2. The experts in the field of English teaching evaluated that most questions with the Indexes of the Item-Objective Congruence between 0.5 and 1 were congruent with the objectives. Forty-two items were selected for the 4 sub-tests and twenty items were selected for the post-test.
3. The experts in the field of educational technology rated the media production technique of the CALL on English sentence structures at a high level.



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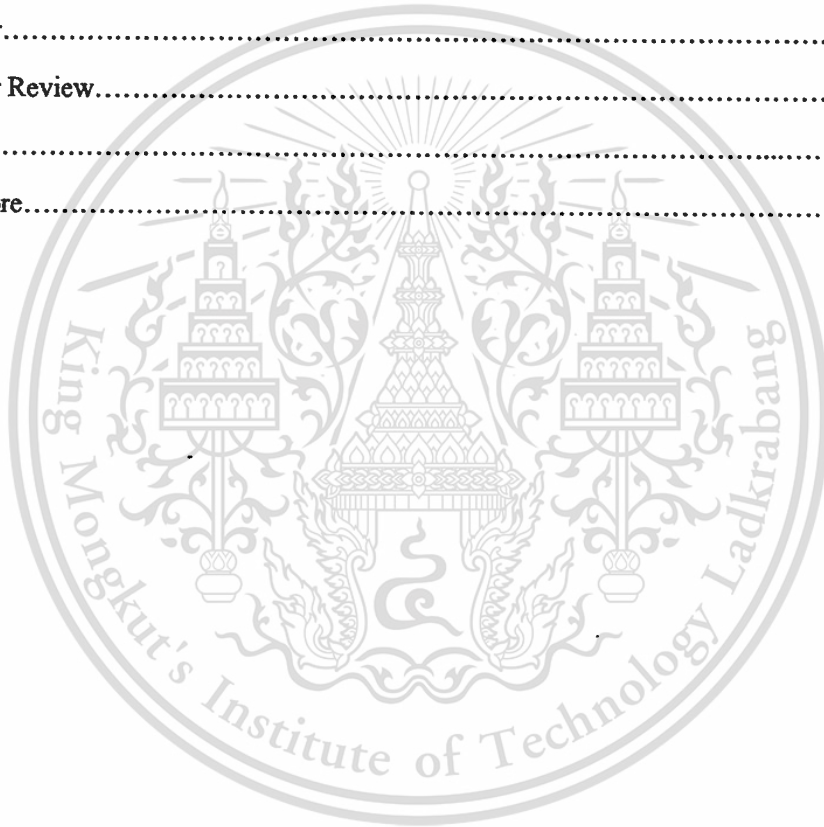
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CHAPTER 1 .

INTRODUCTION

Chapter 1 consists of six sections: statement and significance of the problems, goal and objectives, scopes or limitation of the study, processes of the study, definitions of terms used, and anticipated outcomes.

1.1 Statement and Significance of the Problems

The widespread use of English as a language of wider communication will continue to exert pressure towards global uniformity (Graddol, 2003). For example, books, magazines, and newspapers written in English are available in any countries around the world. In addition, English is now spoken by about 470 million people and it is the official language of about 45 nations (Columbia Electronic Encyclopedia, 2004). Kachru & Nelson (2003) also emphasized the increasing importance of the English language that is the most widely taught, read, and spoken language in world communications, international business, and social and cultural affairs.

People who have the ability to communicate effectively in English can become successful in their lives, and have the potential to become a valuable asset to their country development. With an increasing awareness of the importance of English language learning, the Thai government has currently enforced the curricula of English language learning to be compulsory at pre-primary education (Office of the Education Council, 2004).

In English language learning, Langan (1993) and Weedy (2004) pointed out that one of the most important aspects of English language learning is to study sentence structures, as it is recognized as a fundamental problem in learning the language. In addition, learning English sentence structures is crucial in daily communication where there is cross-cultural communication. Moreover, learning English sentence structures will enable learners to enhance their English communication skills, especially in terms of written communication, whereby learners can master the essential rules of grammar, punctuation, and usage for clear writing. If students make an effort to comprehend English sentence structures, they should have less difficulty in avoiding structural mistakes, and thus be able to write English effectively (Langan, 1993; Weedy, 2004).

Furthermore, Office of the Education Council (2004) stated that the Ministry of Education places a great emphasis on the recent development of information communication technology (ICT) in order to support the development of the education system within the country. From the educational perspective, Tzevelekou, Chondroyanni & Paschalis (2001) stated that computers promote a student-centered learning strategy. This is in line with the government's national education plan, which particularly focuses on a learner-centered approach (Office of the Education Council, 2004).

In English language learning, computer-assisted language learning (CALL) can be used as a means to develop language learning capacity and effectiveness. The results from many research verified that second language learners show the improvement in their language skills with the application of CALL (Swann, 1992; Oz, 1995; Miech, Nave & Mosteller, 1996; Diamond, 1997; Kataoka, 2000; Wannakan, 2000; Kaltenbock, 2001). Moreover, CALL can provide self pace learning, immediate feedback, and the non-existence of negative psychological effects (Torlakovic & Deugo, 2004).

Currently, CALL is beginning to establish itself as research fields in its own right, as there are a number of studies regarding CALL (Zapata, 2004). According to the importance of sentence structures and CALL, this study aimed to develop computer-assisted language learning (CALL) on English sentence structures in order to increase students' motivation. This study focused on the development of CALL that was delivered in Compact Disk-Read Only Memory (CD-ROM) because CD-ROM drives are commonly available on most personal computers (PCs). Moreover, CD-ROM can function without Internet connection requirements. The contents on English sentence structures: simple, compound, complex, and compound-complex sentences were based on "*Writing Academic English*" written by Hogue & Oshima (2006) and on "*A University Grammar of English*" written by Quirk & Greenbaum (1973). The contents were designed for upper-intermediate to advanced English language learners. Each unit structure was based on an inductive approach by Brown (1994). With this approach, the developed CALL on English sentence structures provides the implicit teaching of grammar rather than the explicit one, so it is categorized as the communicative CALL (Warschauer, 1996).

1.2 Goal and Objectives

The purpose of the study is to develop computer-assisted language learning (CALL) on English sentence structures. The objectives of the study are as follows:

1.2.1 To construct contents and achievement tests related to English sentence structures.

1.2.2 To evaluate the quality of the contents and the achievement tests related to English sentence structures.

1.2.3 To construct CALL on English sentence structures.

1.2.4 To evaluate the quality of CALL on English sentence structures.

1.3 Scopes or Limitation of the Study

This study focused on developing CALL on English sentence structures, which was specifically designed for upper-intermediate to advanced English language learners. The contents consisted of four types of English sentence structures: simple, compound, complex and compound-complex sentences, which were provided in *“Writing Academic English”* written by Hogue & Oshima (2006) and in *“A University Grammar of English”* written by Quirk & Greenbaum (1973). The development of CALL was delivered in Compact Disk-Read Only Memory (CD-ROM).

1.4 Processes of the Study

The processes of the study are as follows:

1.4.1 Relevant textbooks and research on English sentence structures and computer-assisted language learning (CALL) were reviewed.

1.4.2 Teaching materials were constructed as follows:

1.4.2.1 The contents on English sentence structures provided in *“Writing Academic English”* written by Hogue & Oshima (2006) and in *“A University Grammar of English”* written by Quirk & Greenbaum (1973) were studied.

1.4.2.2 The contents related to English sentence structures were divided into 4 units as follows:

Unit 1: On Holiday (Simple Sentences)

Unit 2: My Neighborhood (Compound Sentences)

Unit 3: Things around Us (Complex Sentences)

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Unit 4: My Notebook (Compound-complex Sentences)

1.4.2.3 Each unit consisted of the following sections: Objectives, Practices, Grammar, and Grammar Review. The design of the unit structure was based on an inductive approach by Brown (1994).

1.4.2.4 The contents were approved for accuracy and appropriateness by the advisor.

1.4.2.5 The content validity was evaluated by two experts in the field of English teaching with the use of the content evaluation form, as shown in Appendix D.

1.4.2.6 The evaluation form consisted of 4 sections: Section 1: Contents and Presentation, Section 2: Illustrations and Language, Section 3: Practices, and Section 4: Sub-Tests and Post-test. Each section contained different numbers of statements to which the experts responded with 5 levels of effectiveness: the highest, high, moderate, low and the lowest. The statements are shown in Appendix D.

1.4.2.7 According to the results of the content evaluation, the revised contents were made.

1.4.3 After the teaching materials had been designed, the achievement tests consisting of sub-tests and post-test were constructed as follows:

1.4.3.1 The sub-tests provided at the end of each unit and the post-test provided at the end of the four units are the 4 multiple-choice tests constructed in accordance with the objectives of each unit.

1.4.3.2 The sub-tests in Unit 1, 2, 3 and 4 contained 7 questions, 15 questions, 15 questions and 5 questions, respectively. The post-test consisted of 20 questions. The number of questions varied, depending on the objectives of each unit.

1.4.3.3 Before the tests underwent a validating process, the additional sub-test questions and post-test questions were constructed in parallel with the questions in 1.4.2.2 in order to ensure that the rest of the questions after the validating process were enough to cover the objectives as set up in 1.4.3.2.

1.4.3.4 The tests were approved for accuracy and appropriateness by the advisor.

1.4.3.5 The validating process was carried out by the same two experts, who evaluated the content validity, with the use of the forms of the Index of the Item-Objective Congruence (IOC).

1.4.3.6 The tests were revised and the total number of the questions was 42 for the sub-tests and 20 for the post-test.

1.4.4 Computer-assisted language learning (CALL) on English sentence structures was developed as follows:

1.4.4.1 A storyboard of CALL concerning the revised contents and tests was constructed.

1.4.4.2 The Macromedia Authorware Version 7.0 was used to construct the CALL.

1.4.4.3 The storyboard was approved for accuracy and appropriateness by the co-advisor.

1.4.4.4 The media production technique of CALL was evaluated by three experts in the field of educational technology with the use of the evaluation form of the media production technique, as shown in Appendix D.

1.4.4.5 The evaluation form consisted of 8 sections: Section 1: Fonts, Section 2: Illustrations, Section 3: Animation, Section 4: Colors, Section 5: Menus, Section 6: Symbols, Graphics, and Buttons, Section 7: Content arrangement, and Section 8: Time. Each section contained different numbers of statements to which the experts responded with 5 levels of effectiveness: the highest, high, moderate, low and the lowest.

1.4.4.6 After the evaluation of the media production technique, the CALL was revised.

1.4.5 The statistical analyses were carried out after the validation process of the contents, the achievement tests and the CALL.

1.4.6 The results and discussions were written.

1.5 Definitions of Terms Used

Computer-Assisted Language Learning (CALL)

The study of applications of computers in language teaching and learning (Levy, 1997). In this study, CALL was delivered in Compact Disk-Read Only Memory (CD-ROM)

Sentence Structures

The grammatical arrangement of words in sentences. Sentence structures can be divided into four main types: simple, compound, complex and compound-complex sentences.

Sub-test	An assessment tool that is used to measure how much a student knows after finishing learning each unit.
Post-test	An evaluation device that is used to measure a student's master level of the concepts in the lesson after finishing learning. (Chan & Korostoff, 1984).

1.6 Anticipated Outcomes

1.6.1 Computer-assisted language learning (CALL) would enable a more effective learning of English sentence structures for upper-intermediate to advanced English language learners.

1.6.2 Constructed CALL on English sentence structures would be more accessible to other interested persons without any requirements to participate in a classroom.

1.6.3 CALL would allow students to learn English sentence structures at their own pace with more interactivity, compared to the traditional learning methods of books and tapes.

CHAPTER 2

LITERATURE REVIEW

Chapter 2 consists of five sections. The first section begins with the place of grammar and grammar teaching. The second section explains four types of English sentence structures. The third section presents history of CALL. The fourth section describes compact disk-read only memory (CD-ROM). The final section reviews related research.

2.1 The Place of Grammar and Grammar Teaching

‘Grammar’ was defined by Brown (1994) as the language patterns that indicated relationships between words in sentences. When sentences were combined differently, different meanings were indicated. Grammar also includes the components of words (prefixes, suffixes, roots, verb and noun endings, etc.) and the word ‘grammar’ also refers to sentence-level rules (Brown, 1994).

Language has three dimensions that are interrelated and grammar is one of them. Grammar provides to us the forms or structures of language in themselves. Moreover, without a second dimension, semantics, and a third dimension, pragmatics, those forms are literally meaningless. To make it simpler, grammar tells us how to form a sentence while semantics indicates something about the meaning of words and strings of words, or meanings. Then pragmatics tells us about which of several meanings to assign based upon the given context of a sentence (Brown, 1994).

Second language learners may take many years to be able to understand most of the patterns of English grammar. Teachers, especially language teachers, must be aware of the English grammar difficulties that learners may come across in order to create an effective teaching program. The terms ‘inductive’ and ‘deductive’ grammar teaching has just only gained more recognition in the teaching of grammar. In an inductive approach, the learners are left to discover or induce rules and generalizations on their own. In contrast, a deductive approach involves a method where rule/generalization is given by the teacher or textbook and then allowed to practice various instances of language to which the rule applies (Brown, 1994). These two approaches are often distinctive from each other when questions about grammar teaching occur.

Generally, an inductive approach is currently more in favor due to four major reasons. Firstly it is more about keeping the natural language acquisition where rules are taken in subconsciously with little or no conscious focus. Then it conforms easily to the concept of interlanguage development where students progress through possible phases of rules acquisition. It also allows

students to explore a communicative experience for some parts of language in the process before they get possibly overwhelmed by grammatical explanations. Finally, it builds more natural inspiration by allowing students to discover rules than being told to them (Brown, 1994).

2.2 English Sentence Structures

English sentence structures are divided into 4 types: simple, compound, complex and compound-complex sentences (Hogue & Oshima, 2006).

2.2.1 Simple Sentences

A simple sentence contains one independent clause which is divided into 7 clause types according to Quirk & Greenbaum (1973). The elements of the simple sentence structures are subject (S), verb (V), object (O), complement (C) and adverbial (A).

2.2.1.1 Subject (S)

A subject is a noun phrase with nominal function. It occurs before the verb phrases in declarative clauses, and after the auxiliary verbs (be, have, do) or modal verbs (shall, will, can, must, may, should, would, could, might) in questions.

- (1) The concert is on Thursday.

S

- (2) Do you want to go shopping?

S

- (3) Could I borrow your pencil?

S

2.2.1.2 Verb (V)

A verb is a verb phrase that follows the subject and precedes the object, complement, or adverbial. A transitive verb (tv) takes a direct object whereas an intransitive verb (iv) does not require an object.

- (4) Many critics disliked the play.

tv

- (5) The baby is sleeping.

iv

2.2.1.3 Object (O)

An object, like a subject, is a noun phrase with nominal function. It follows the subject and the verb phrase. There are two types of objects, i.e. a direct object (O_d) and an indirect object (O_i). The indirect object always precedes the direct object.

(6) My father gave me this watch.

O_i O_d

2.2.1.4 Complement (C)

A complement is a noun phrase or an adjective phrase, having a co-referential relation with a subject or an object. A subjective complement (C_s) comes after a linking verb to refer back to the subject and has the same identity as the subject. An objective complement (C_o) follows the direct object and has the same identity as the direct object.

(7) Mary is a nurse.

C_s

(8) Queen Victoria considered him a genius.

C_o

Subject and object complements have the additional possibility of being realized by adjective phrases (having an adjective as head) as follows:

(9) The baby is asleep.

C_s

(10) She made him happy.

C_o

2.2.1.5 Adverbial (A)

An adverbial can be realized by adverb phrases, by noun phrases, or by preposition phrases, as shown as follows:

(11) John very carefully searched the room.

Adverb phrase

(12) They make him the chairman every year.

Noun phrase

(13) Mary is in the house.

Preposition phrase

Table 2.1 Seven Clause Types of Simple Sentences

S(ubject)	V(erb)	O(bject)(s)	C(omplement)	A(dverbial)	Clause types
Mary	is	-	-	in the house	SVA
Mary	is	-	a nurse	-	SVC
Somebody	caught	the ball	-	-	SVO
I	put	the plate	-	on the table	SVOA
We	have proved	him	wrong	-	SVOC
She	gives	me (O _i)	-	-	SVOO
		expensive presents (O _d)			
The child	laughed	-	-	-	SV

2.2.2 Compound Sentences

A compound sentence is two or more independent clauses joined together. There are three ways to join the clauses: with a coordinating conjunction, with a conjunctive adverb, and with a semicolon.

2.2.2.1 Compound Sentences with Coordinating Conjunctions

A compound sentence can be formed as follows:

Independent clause, + coordinating conjunction + independent clause.

There are seven coordinating conjunctions, which are also called coordinators, including *for*, *and*, *nor*, *but*, *or*, *yet*, *so*. When forming a sentence, a comma must be included after the first independent clause.

'for' is used to express *a reason*.

(14) I am a little hungry, **for** I didn't eat breakfast this morning.
IDC
Coordinator
IDC

'and' is used to express *a similar, equal idea*.

(15) They eat a lot of fish and vegetables, **and** they eat lightly.

'nor' is used to express *a negative equal idea*.

(16) They do not eat a lot of red meat, **nor** do they eat many dairy products.

'but' is used to express *an opposite idea*.

(17) Diet is one factor in how long people live, **but** it is not the only factor.

'or' is used to express *an alternative possibility*.

(18) People should limit the amount of animal fat in their diets, **or** they risk getting heart disease.

'yet' is used to express *an unexpected or surprising continuation*.

(19) Cigarette smoking is a factor in longevity factor, **yet** Japanese and other long-lived Asians have a very high rate of tobacco use.

'so' is used to express *an expected result*.

(20) I did not eat breakfast this morning, **so** I am a little hungry.

(NOTE: Use a comma before the coordinating conjunction in compound sentences only.

Do not use a comma when joining compound elements in simple sentences.)

2.2.2.2 Compound Sentences with Conjunctive Adverbs

A second way to form a compound sentence can be as follows:

Independent clause; + conjunctive adverb, + independent clause

When forming a sentence, a semicolon must be put first and then put a comma after the conjunctive adverb.

If the sentences express similar or equal ideas, use a conjunctive adverb (*also, besides, furthermore, in addition, moreover, as well, too*) to combine them.

(21) Community colleges offer preparation for many occupations; **moreover/ also/ besides/**

IDC

Conjunctive adverb

furthermore/ in addition, they prepare students to transfer to a four-year college or university.

IDC

(22) Community colleges offer preparation for many occupations; they prepare students to transfer to a four-year college or university **as well/ too**.

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If the sentences express unexpected or surprising continuation, use a conjunctive adverb (*however, nevertheless, nonetheless, still*) to combine them.

(23) The cost of attending a community college is low; **however/ nevertheless/ nonetheless/ still**, many students need financial aid.
IDC Conjunctive adverb

If the sentences express a complete contrast, use a conjunctive adverb (*on the other hand, in contrast*) to combine them.

(24) The cost of attending a community college is low; **on the other hand/ in contrast**, most four-year colleges do.
IDC Conjunctive adverb

If the sentences express an alternative possibility, use a conjunctive adverb (*otherwise*) to combine them.

(25) Students must take final exams; **otherwise**, they will receive a grade of Incomplete.
IDC Conjunctive adverb IDC

If the sentences express an expected result, use a conjunctive adverb (*accordingly, as a result, consequently, hence, therefore, thus*) to combine them.

(26) Native and nonnative English speakers have different needs; **therefore/ accordingly/ as a result/ consequently/ hence/ thus**, most schools provide separate classes for each group.
IDC Conjunctive adverb IDC

If the sentences express an example, use a conjunctive adverb (*for example, for instance*) to combine them.

(27) Colors can have different meanings; **for example/ for instance**, white is the color of weddings in some cultures and of funerals in others.
IDC Conjunctive adverb IDC

2.2.2.3 Compound Sentences with Semicolons

A third way to form a compound sentence is to connect the two independent clauses with a semicolon alone:

Independent clause; + independent clause

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This type of compound sentence can be formed only when the two independent clauses are closely related in meaning. If they are not closely related, they should be written as two simple sentences, each ending with a period.

(28) The practice of yoga strengthens the body and promoted flexibility; it also strengthens the mind and refreshes the soul.

(29) Three hundred guests attended his wedding; two attended his funeral.

2.2.3 Complex Sentences

A complex sentence is a sentence that consists of one independent and one (or more) dependent clause(s). In the complex sentence, one idea is generally more important than the other. We place the more important idea in an independent clause and the less important idea in a dependent clause.

A dependent clause begins with a subordinator such as *when, while, if, that* or *who*. A dependent clause does not express a complete thought, so it is not a sentence by itself. By itself, it is an incomplete sentence, and it is an error.

There are 3 kinds of dependent clauses: adverb, adjective, and noun clauses.

2.2.3.1 Complex sentences with adverb/ adverbial clauses

An adverb clause acts like an adverb; that is, it tells where, when, why and how. An adverb clause begins with a subordinator, such as *when*, *while*, *because*, *although*, *so that* or *if*. It can come before or after an independent clause. If an adverb clause comes before an independent clause, put a comma after it. If it comes after an independent clause, do not use a comma. (Exception: Always use a comma with *while* and *whereas*. Also, many writers always use a comma with *although*, *though*, and *even though*.)

There are various kinds of adverb clauses as follows:

1. Time clauses

We use subordinators 'when, whenever, while, as soon as, after, since, as, before, or until' to answer the question "When?"

(30) A citizen can vote in the United States when he or she is 18 years old.

(31) *Whenever* food became scarce in one area, they moved to another area.

(32) My brother likes classical music, *while* I prefer hard rock.

(33) As soon as a baby opens its eyes, it begins to observe its surroundings.

(34) **After** people learned how to grow their own food, they settled in villages.

(35) **Since** the United States changed from an agricultural to an industrial society, eating habits there have changed.

(36) People in the United States started eating more processed convenience foods **as their** lives became busier.

(37) **Before** people in the United States moved to cities, they grew most of their own food.

(38) Women had time to cook meals “from scratch” **until** they went to work in factories and offices.

2. Places clauses

We use subordinators '*where, wherever, everywhere, or anywhere*' to answer the question “Where?”

(39) I always put the house key **where/ wherever/ everywhere/ anywhere** I will see it.

3. Clauses of manner

We use subordinators '*as, as if, or as though*' to answer the question “How?”

(40) We mixed the chemicals exactly **as** the lap instructor had told us to.

(41) John acts **as if/ as though** he were the Prince of Wales.

4. Distance clauses

We use subordinators '*as+adverb+as*' to answer the question “How far?”

(42) Fire had destroyed the trees in the forest **as far as the eye could see.**

5. Frequency clauses

We use subordinators '*as+adverb+as*' to answer the question “How often?”

(43) I do not visit my parents **as often as they would like me to.**

6. Purpose clauses

We use subordinators '*so that, in order that*' to answer the question “For what intention?”

(44) Farmers use chemical pesticides **so that they can get higher crop yields.**

(45) *In order that* consumers can enjoy unblemished fruits and vegetables, farmers also spray their fields.

7. Result clauses

We use subordinators '*so+adjective/adverb+that*' to answer the question "*For what effect?*"

(46) Making a speech made me **so nervous that I got a stomachache**.

8. Conditional clauses

We use subordinators '*if, unless*' to answer the question "*Under what circumstance?*"

(47) We will not go hiking **if it rains**.

(48) We will not go hiking **unless the weather is perfect**.

9. Contrast clauses of concession

We use subordinators '*although, even though, though*' to show an unexpected result.

(49) I went swimming, **even though the water was freezing**.

(50) **Although** he loves sports cars, he drives a sedan.

(51) **Though** the citizens had despised the old regime, they disliked the new government even more.

10. Reason clauses

We use subordinators '*as, because, since*' to answer the question "*Why?*"

(52) You have won the salesperson of the year award **because** your sales have shown such outstanding growth over the past 12 months. **since**

(53) **As** the price of gasoline has always been quite high in Europe, most Europeans drive high-mileage automobiles.

2.2.3.2 Complex sentences with an adjective clauses/ relative clauses

An adjective clause acts like an adjective; that is, it describes a noun or pronoun. The adjective clause begins with a relative pronoun, such as *who, whom, which, whose, or that*, or with a relative adverb, such as *where* or *when*. It follows the noun or pronoun it describes.

There are two kinds of adjective clauses in the written language:

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1. Adjective clauses without commas (sometimes called defining, restrictive, or identifying). They provide essential information about the subject or object. We do not use commas (,) with these clauses:

We know a lot of people who live in London. (what kind of people)

The relative pronoun “that” refers to animals and things, and it informally refers to people. It is used as a subject or an object in its own clause and it is only used in restrictive clauses.

We use **which/ that** in an adjective clause when we are talking about animals or things.

‘that’ in object pattern clauses can be omitted.

(54) The address **which/ that he gave me** was incorrect.

We use **where** in an adjective clause to talk about a place.

(55) An orphanage is a place **where** orphans live.

We use **when** in an adjective clause to talk about a time.

(56) Ramadan is the month **when** devout Muslims fast.

2. Adjective clauses with commas (sometimes called non-defining, non-restrictive or non-identifying). They provide additional information which can be omitted. We use commas (,) in these clauses:

(57) She teaches biology, **which** is my favorite subject.

2.2.3.3 Complex sentences with noun clauses

A noun clause is a dependent clause that functions as a noun. A noun clause is part of an independent clause, where it can be a subject, an object, or a subject complement. It can also follow certain adjectives and nouns. The most common position of a noun clause is after the verb of the main (independent) clause.

There are three kinds of noun clauses as follows:

1. **that** clauses, which begin with the word **that**.
2. **if/ whether** clauses, which begin with the words **whether** or **if**.
3. **question** clauses, which begin with a question word, such as **who, what, where, when, or how**.

1) **That** clauses are formed from statements, and they are introduced by the subordinator *that*.

(58) That there is a hole in the ozone layer of Earth's atmosphere is well known.

2) **If/ Whether** clauses are formed from yes/ no questions. They are introduced by the subordinator *if* or *whether*. *Whether* is more formal than *if*. *Or not* may be added. The word order of the *if/ whether* clauses is formed as a declarative sentence. The clauses also do not contain *do*, *does*, or *did* because they are not questions.

(59) I can't remember *whether/ if* I locked the door (*or not*).

3) **Question** clauses are formed from *wh-* questions; *wh-* words are the subordinators: *who*, *when*, *what*, etc. The word order of the *if/ whether* clauses is formed as a declarative sentence.

(60) Who arrives at the bus station first should buy the tickets.

S/ Subordinate

(61) We should ask **when** the bus arrives.

(62) Scientists know **what** caused it.

2.2.4 Compound-Complex Sentences

A compound-complex sentence is a sentence that consists of two independent clauses and one (or more) dependent clauses.

(63) Because grammar is easy, I learned it quickly, but it took me several years to master

DC

IDC

IDC

writing.

2.3 History of Computer-Assisted Language Learning (CALL)

The history of computer-assisted language learning (CALL) can be divided into three phases as follows (Warschauer, 1996):

The first phase, behavioristic CALL, focused on repetitive exercises, generally called “drill and practice,” as a means of language instruction. The first notable CALL project was carried out at the University of Illinois in 1960 and named the Programmed Logic for Automated Teaching Operations (PLATO) project. PLATO was designed to provide learners with a self-paced, interactive means of instruction. PLATO software was eventually developed for a number of different languages.

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The next phase, communicative CALL, was fostered in part due to the switch toward the communicative language learning approach, and in part due to a perceived lack of interactivity within the framework of behavioristic CALL. Communicative CALL is based on the notion that, while knowledge of language forms is important in language learning, it is not as important as the actual usage of the forms. These programs were based on the “computer as tool” and “computer as a stimulus” models. The computer is the holder of the correct answer and the learner is encouraged to figure it out on his/her own. In this respect, communicative CALL teaches grammar implicitly rather than explicitly. The first notable communicative CALL project was the Timed-Shared, Interactive, Computer Controlled Television (TICCIT) project at Brigham Young University in 1971. Both the PLATO and TICCIT projects were used to teach language as well as other subjects; however, they differed from each other in that TICCIT had a specific instructional framework built into the software which allowed the teacher to contribute material to the content of the lesson. TICCIT was allowed for interactivity by letting the learner choose not only the content, but also its presentational form. TICCIT can also be seen as possibly the first instance of a multimedia CALL program.

The last phase, integrated CALL, was based on the development of the multimedia computer and the Internet. Integrated CALL seeks to combine these technological developments as a means to provide a variety of media (text, graphics, sound, animation, and video) with various skills (listening, speaking, reading, and writing) for a more comprehensive and meaningful language learning experience. It also provides learners with a greater degree of autonomy, allowing them to pick and choose desired content and material, because it links different types of media together through the use of hypermedia. In addition, it allows learners to encounter a text that is too culturally dissimilar from their own, and it will help to address the problem. The linkage of these media also gives a more real world experience to the learning process, as it combines different language skills, just as the real world combines sound and visuals. However, perhaps the biggest advantage to integrated CALL is that it maintains a focus on content, including learning forms or strategies.

In this study, the developed CALL on English sentence structures is the communicative CALL. It emphasizes the actual usage of the forms, and it teaches grammar implicitly rather than explicitly. The learners learn English sentence structures via practices.

2.4 Compact Disk-Read Only Memory (CD-ROM)

In recent years, advances in computer technology have motivated teachers with language learning through compact disk-read only memory (CD-ROM) (Higgins, 1993). CD-ROM is a compact disk that can store large quantities of information, up to 700 megabytes, or more than 480 times that of a 3.5 inch floppy disk (Longman Dictionary of American English, 1997). CD-ROM has the added advantage over traditional teaching materials (textbooks and cassettes) (Anderson, 1989). It is convenient in transportation and storage. Students and teachers can access information more quickly and effectively, both in and out the classroom (Higgins, 1993). Moreover, CD-ROM has the ability to incorporate culture, grammar, and real language use in the classroom while students gain access to audio, visual, and textual information about the target language and the culture. CD-ROM is a useful medium that not only provides supplemental exercises, but also makes the computer a valuable part of daily foreign language learning.

2.5 Related Research

Swann (1992) described the CAGE (Computer-Assisted Grammar of English) project, which involved the design, implementation and evaluation of a CALL system. The Apple II machine was used for Italian Secondary School students of English as a Foreign Language. The CAGE system provided intensive practice in difficult areas of English morphosyntax closely targeting students' needs. Traditional drill and practice style exercises were combined with a variety of innovative representations to provide a "cognitive-learning based" approach to English sentence structure. The system was fully integrated into the students' regular course work and subjected to a year-long evaluation by two groups of students. The results were highly positive. The students liked the software and were convinced that it had had a positive impact on their English learning.

Oz (1995) investigated the impact of CALL on English as a foreign language (EFL) students' achievement in English writing and on their attitudes toward computer-assisted writing/word processing, writing in English, computers, and word processing programs. The findings revealed that word processing as a facilitative CALL activity not only contributes to EFL students' writing product and process through better text organization, revision, correction, editing and other modifications, but also stimulates them to write using an electronic keyboard. Students had more positive attitude toward social and psychological phenomena of the studied language.

Miech, Nave & Mosteller (1996) studied CALL usage in U.S. colleges and universities. An interpretive summary of five major findings from the review of the empirical CALL studies is

offered: (1) captioning video segments can dramatically boost student comprehension; (2) CALL can connect students with other people inside and outside of the classroom, promoting natural and spontaneous communication in the target language; (3) the type of CALL feedback provided to students can play a central role in learning; (4) student attitudes toward CALL are not always depend on student achievement using CALL; and (5) CALL can substantially improve achievement when compared with traditional instruction.

Diamond (1997) explored learner proficiency in using computer-assisted language learning programs. The study investigated the attitudes of language program students, teachers, and administrators. It concerned the effectiveness of CALL instruction for adults using EXITO courseware, which a Spanish language program developed by the Central Intelligence Agency. The study was concluded that CALL's effectiveness can be enhanced by the development of pedagogically-based courseware, integration of courseware into existing curricula, investment in teacher training, pairing live instruction and CALL, and recognition of the importance of humans in all forms of instruction.

Kataoka (2000) carried out computers for English language learning in Japanese schools. The study revealed that the use of computers can offer more authentic examples of English language in use (newspapers and broadcast media) and opportunities for realistic communication (e-mail), both of which can facilitate language learning. Learners can proceed at their own pace and take more risks; teachers can address the different learning styles of their students through multimedia with pictures, sound, movies, and text, offering several different ways to deal with the same material to suit various learning styles; and networked computers can be tools for communication in which learners can engage in interaction using the target language.

Wannakan (2000) conducted the use of computer-assisted instruction as a teaching aid in English III and IV for second year students in the Faculty of Arts at Silpakorn University. The study focused on the efficiency of computer-assisted instruction regarding basic reading skills (vocabulary recognition, vocabulary in context, reference and text structure); achievement in lesson learning from computer-assisted instruction; students' attitudes towards learning by using computer-assisted instruction; and students' reading comprehension using computer-assisted instruction. Computer-assisted instruction in the form of CD-ROM, two achievement tests, a reading skills test, a questionnaire, and two reading comprehension tests were used as the research instruments. Results indicated that students gained a higher mean in every reading skill after the study in CD-ROM lessons and had a positive attitude towards learning by using computer-assisted instruction.

Kaltenbock (2001) searched into how learner autonomy can be used as a guiding principle for designing a CD-ROM for intonation practice. The aim was to help learners of English at intermediate and advanced levels improve their English intonation without the immediate control of a teacher. The research identified several advantages in using CD-ROM: it produces a stress-free environment that gives sufficient room for experimentation; it is easy to record a CD-ROM, an ideal medium for intonation teaching; and it helps enhance learner autonomy in immediate learning and real-life situations without the presence of a teacher. It was concluded that a CD-ROM can be a valuable tool to guide learners on their way to learning intonation autonomously, although it cannot be used as a teacher replacement.



CHAPTER 3

RESEARCH METHODOLOGY

This chapter focuses on research methodology. Section 3.1 describes research instruments used in this study. Section 3.2 presents statistical devices used for data analysis.

3.1 Research Instruments

Research instruments consisted of teaching materials, achievement tests, and computer-assisted language learning (CALL).

3.1.1 Teaching Materials

3.1.1.1 The contents on English sentence structures provided in *“Writing Academic English”* written by Hogue & Oshima (2006) and in *“A University Grammar of English”* written by Quirk & Greenbaum (1973) were studied.

3.1.1.2 The contents related to English sentence structures (See Appendix A) were divided into 4 units as follows:

- Unit 1: On Holiday (Simple Sentences)
- Unit 2: My Neighborhood (Compound Sentences)
- Unit 3: Things around Us (Complex Sentences)
- Unit 4: My Notebook (Compound-complex Sentences)

3.1.1.3 The concepts of each unit were as follows:

- Unit 1: On Holiday

Students were asked to comprehend and form seven clause types, to explain activities on a holiday as well as to correctly identify each element in the seven clause types.

- Unit 2: My Neighborhood

Students were asked to describe the lifestyle of their neighborhood with the use of compound sentences, and also to form compound sentences with coordinating conjunctions, conjunctive adverbs, and semicolons.

- Unit 3: Things around Us

Students were asked to comprehend and form complex sentences and to describe characteristics of people, animals, and things, as well as the formation of adverb clauses, adjective clauses, and noun clauses.

- Unit 4: My Notebook

Students were asked to comprehend and form compound-complex sentences and to describe what has occurred in their lives.

3.1.1.4 Each unit follows the same structure: Objectives, Practices, Grammar, and Grammar Review (See Appendix A). The structure was based on an inductive approach by Brown (1994).

3.1.1.5 The contents were approved for accuracy and appropriateness by the advisor.

3.1.1.6 The content validity was evaluated by two experts in the field of English teaching with the use of the content evaluation form, as shown in Appendix D.

3.1.1.7 The evaluation form consisted of 4 sections: Section 1: Contents and Presentation, Section 2: Illustrations and Language, Section 3: Practices, and Section 4: Sub-Tests and Post-tests. Each section contained different numbers of statements to which the experts responded with 5 levels of effectiveness: the highest, high, moderate, low and the lowest. The statements are shown in Appendix D.

3.1.1.8 According to the results of the content evaluation, the revised contents were made.

3.1.2 Achievement Tests

After the contents had been designed, the achievement tests consisting of sub-tests and post-test were constructed as follows:

3.1.2.1 The sub-tests provided at the end of each unit and the post-test provided at the end of the four units are the 4 multiple-choice tests constructed in accordance with the objectives of each unit.

3.1.2.2 The sub-tests in Unit 1, 2, 3 and 4 contained 7 questions, 15 questions, 15 questions and 5 questions, respectively. The post-test consisted of 20 questions. The number of questions varied, depending on the objectives of each unit.

3.1.2.3 Before the tests underwent a validating process, the additional sub-test questions were constructed in parallel with the questions in 3.1.2.2 included 8 questions for Unit 1, 3

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questions for Unit 2, 5 questions for Unit 3, and 4 questions for Unit 4. For the post-test, the additional 18 questions were provided. The additional questions were constructed to ensure that the rest of the questions after the validating process were enough to cover the objectives as set up in 3.1.2.2. Accordingly, the total number of the sub-test questions and the post-test questions undergoing the validating process was 62 and 38, respectively.

3.1.2.4 The tests were approved for accuracy and appropriateness by the advisor.

3.1.2.5 The validating process was carried out by the same two experts, who evaluated the content validity, with the use of the forms of the Index of the Item-Objective Congruence (IOC), as shown in Appendix B and Appendix C. The IOC forms were used to evaluate the congruence between the test items and the objectives.

3.1.2.6 After the validating process, the tests were revised and the number of the sub-test and post-test questions covers what were set up in 3.1.2.2. That is, the total number of the questions was 42 for the sub-tests and 20 for the post-test.

3.1.2.7 In order to pass the sub-tests and the post-test, students have to receive not less than 70% correct answers. That is, the students have to receive a raw score of not less than 5, 11, 11, and 4 for the sub-tests of Unit 1, 2, 3, and 4, respectively. For the post-test, a raw score of the correct answers has to be not less than 14.

3.1.3 Computer-Assisted Language Learning (CALL)

In this study, the development of CALL on English sentence structures is as follows:

3.1.3.1 A storyboard of CALL concerning the revised contents and tests was constructed.

3.1.3.2 The Macromedia Authorware Version 7.0 was used to construct the CALL.

3.1.3.3 The samples of how to operate the CALL are as follows:

3.1.3.3.1 Insert the CD-ROM into the CD-ROM drive. The program will run automatically.

3.1.3.3.2 Before learning each unit, a student has to type his/ her name in the block given on the screen in order to show the identity of the user. (see Diagram 3.1).

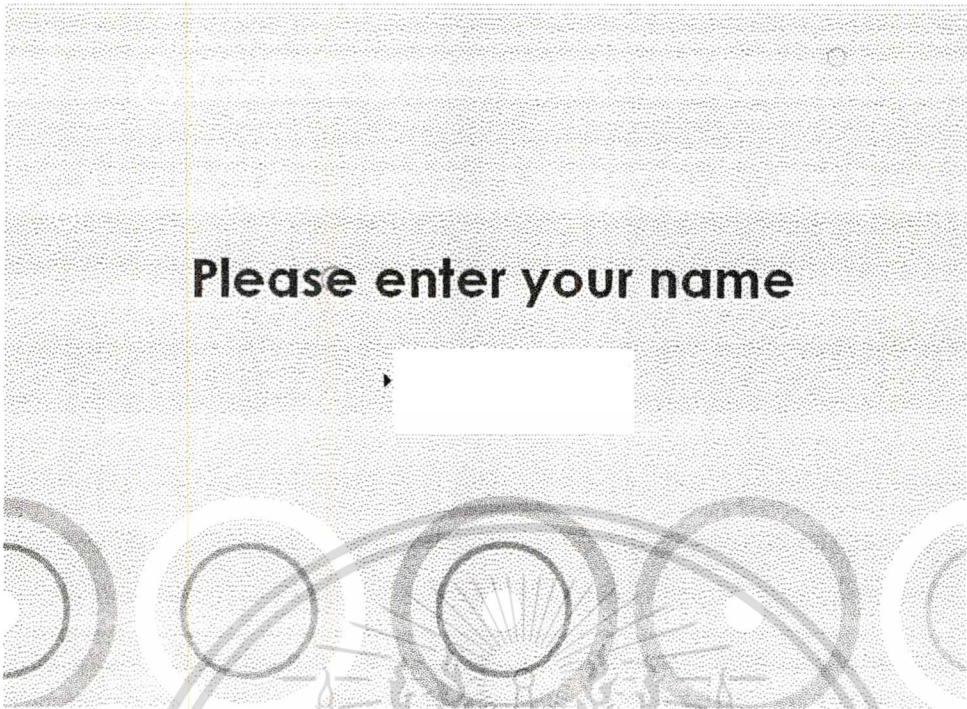


Diagram 3.1: Registration

3.1.3.3.3 Then, the main page consisting of the unit titles is shown (see Diagram 3.2). The student has to choose the unit in order because the units were designed according to the difficulty level, ranging from simple, compound, complex, to compound-complex sentences.

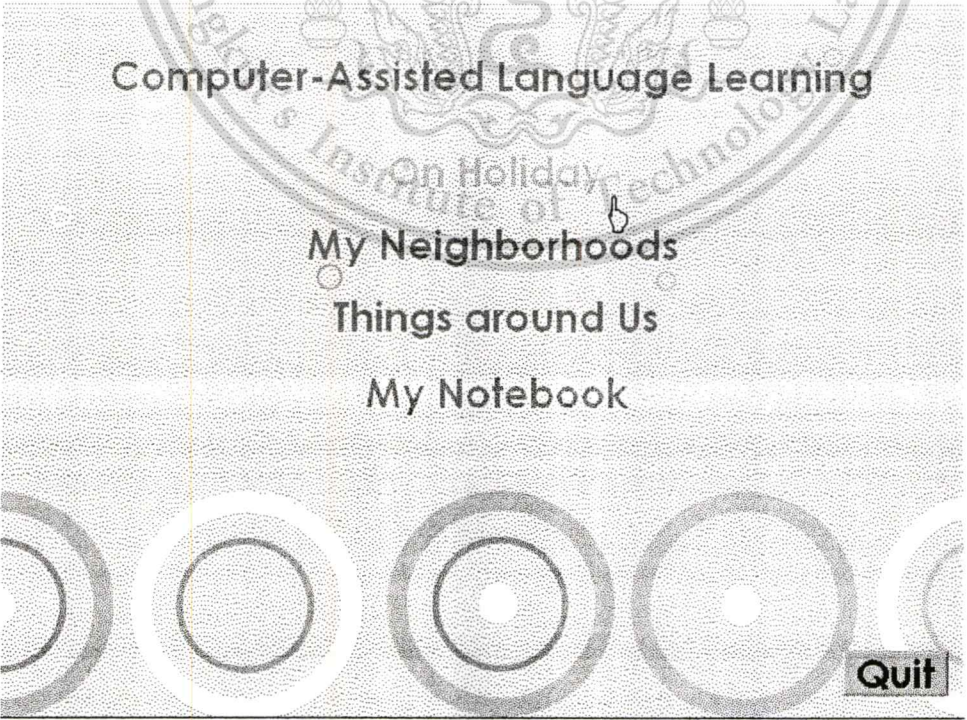


Diagram 3.2: Main Page

3.1.3.3.4 The unit starts with the objectives followed by the practice section in which the student takes in grammatical rules subconsciously with little or no conscious focus (see Diagram 3.3).

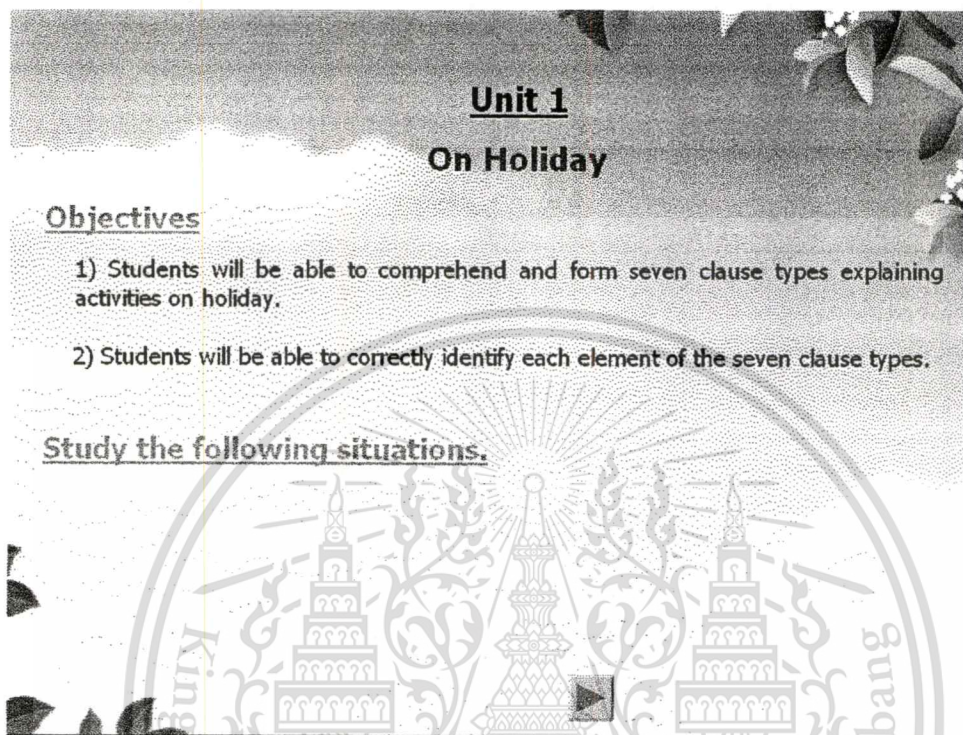


Diagram 3.3: Objectives

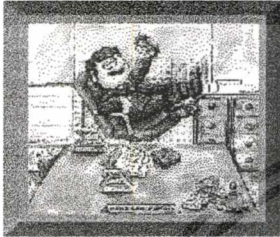
3.1.3.3.5 Diagram 3.4 is a practice section, asking students to do activities concerning simple, compound, complex and compound-complex sentences. It is important to let the students know how they performed immediately after the completion of each practice item. If they give an incorrect answer, they will see the expression “Wrong, Incorrect, Try again, Whoop!, Oh! Oh!, You made a boo-boo!, Don’t give up, Don’t quit or You got it wrong!”. For example, in Diagram 3.5, the expression “wrong” was shown after filling an incorrect answer in the verb space. In addition, they are not allowed to do the next item. If they provide a correct answer, the next item will be shown.

Practice 1

Look at each picture below. Then choose the correct word to fill in the space.

her is eating in the office Larry is enjoyable her umbrella
a piece of pizza a managing director is sleeping hung his birthday

Henry and Sally must work on holiday.



What is Henry?
He is _____
 S V C

Where is he?
He _____
 S V A

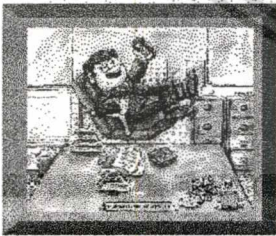
Diagram 3.4: Practices

Practice 1

Look at each picture below. Then choose the correct word to fill in the space.

her is eating in the office Larry is enjoyable her umbrella
a piece of pizza a managing director is sleeping hung his birthday

Henry and Sally must work on holiday.



What is Henry?
He is a managing director
 S V C

Where is he?
He wrong _____
 S V A

Feedback

Diagram 3.5: Feedback Page

3.1.3.3.6 After completing the practice, the students can subconsciously generalize what they learn in the unit. Then, they go to the page, concerning the Grammar section

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by clicking the arrow button. The page is shown in Diagram 3.6. Diagram 3.6 illustrates grammar of the previous practice. In the Grammar section, the students consciously learn grammatical rules and recheck their understanding from the previous practice.

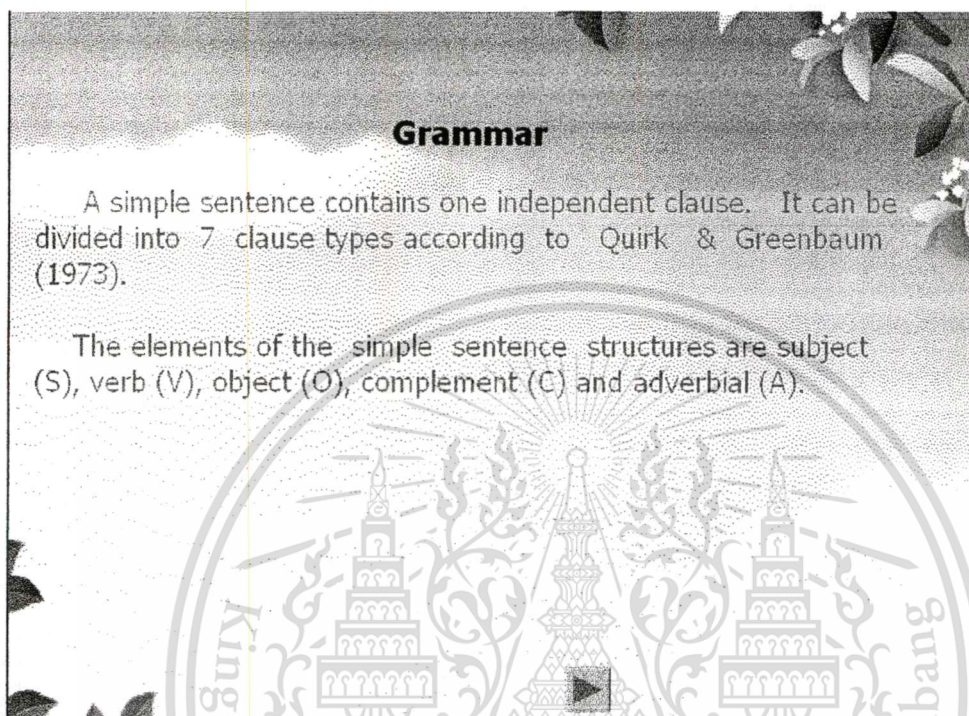


Diagram 3.6: Grammar

3.1.3.3.7 After Diagram 3.6, the students have to review their grammatical knowledge by working on the Grammar Review section, as shown in Diagram 3.7. The immediate feedback is provided in the same way as in 3.1.3.3.5

Grammar Review

Choose the correct clause types of sentences.

a) SVO b) SVC c) SV d) SVA

e) SVOO f) SVOC g) SVOA

SVC 1) Tata is a singer.

SV 2) She is singing.

SVA 3) Mary is on vacation.

wrong 4) Prem joins her concert.

_____ 5) He gives her expensive flowers.

_____ 6) He considers her a fiancée.

_____ 7) He may marry her next year.

Diagram 3.7: Grammar Review

3.1.3.3.8 Diagram 3.8 illustrates the sub-test page, asking the students to answer the test questions after learning each unit. The students can choose the answer by clicking a, b, c, or d on the screen. The page will be changed to the next question.

1. Which sentence has the SV pattern?

☐ a He played the piano.

☐ b They went to Siam Ocean World.

☐ c I visited my parents in Bangkok.

☐ d He swam.

Diagram 3.8: Tests

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3.1.3.3.9 After completing all questions of the sub-test, the total score will be shown on the screen (see Diagram 3.9). For example, in Unit 1, if the students get the score equal to 1, they have to learn Unit 1 again.

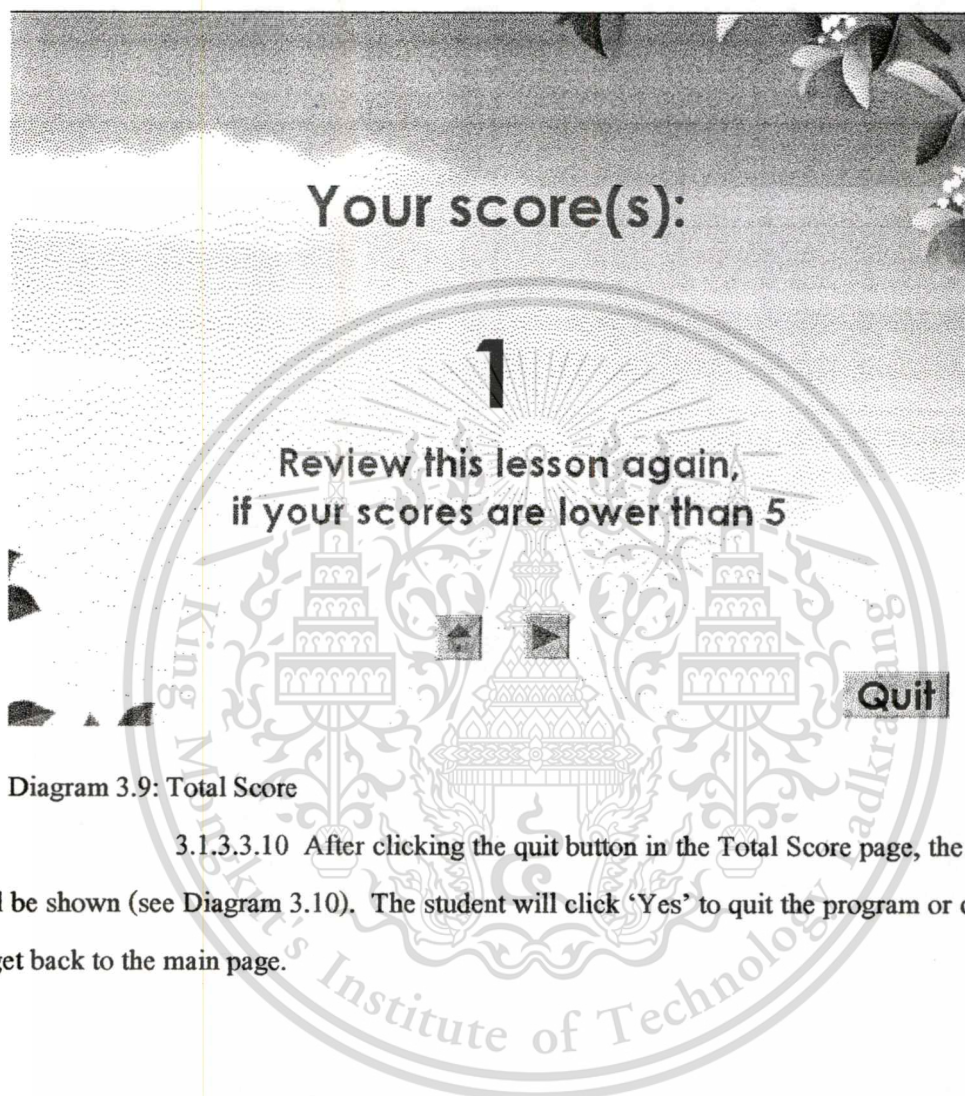


Diagram 3.9: Total Score

3.1.3.3.10 After clicking the quit button in the Total Score page, the quit page will be shown (see Diagram 3.10). The student will click 'Yes' to quit the program or click 'No' to get back to the main page.

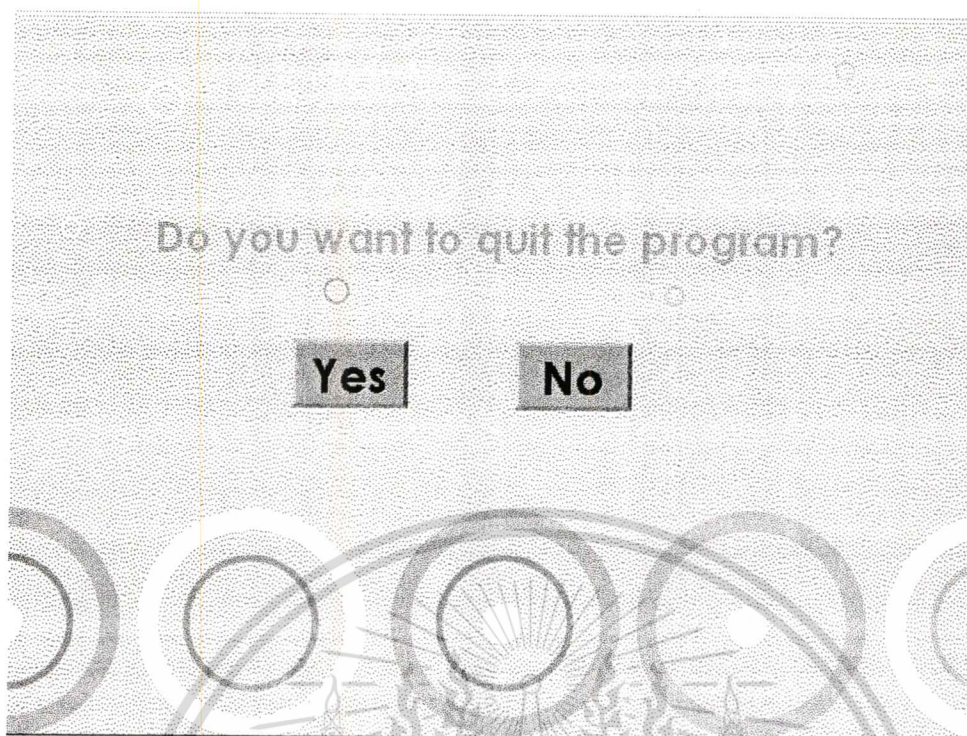


Diagram 3.10: Quit Page

3.1.3.4 The storyboard was approved for accuracy and appropriateness by the co-advisor.

3.1.3.5 The media production technique of CALL was evaluated by three experts in the field of educational technology with the use of the evaluation form of the media production technique, as shown in Appendix D.

3.1.3.6 The evaluation form consisted of 8 sections: Section 1: Fonts, Section 2: Illustrations, Section 3: Animation, Section 4: Colors, Section 5: Menus, Section 6: Symbols, Graphics, and Buttons, Section 7: Content arrangement, and Section 8: Time. Each section contained different numbers of statements to which the experts responded with 5 levels of quality: the highest, high, moderate, low and the lowest. The statements were shown in Appendix D.

3.1.3.7 After the evaluation of the media production technique, the CALL was revised.

3.2 Data Analysis

The statistical analyses were carried out after the validation process of the contents, the tests and the CALL.

3.2.1 Contents

3.2.1.1 A five-point Likert-type scale was used for the content evaluation with the following rating criteria:

Table 3.1 A Five-Point Likert-Type Scale on the Quality of the Contents

Likert Ratings	Rating Criteria
5	The quality of the contents on English sentence structures is in the highest level .
4	The quality of the contents on English sentence structures is in a high level
3	The quality of the contents on English sentence structures is in a moderate level
2	The quality of the contents on English sentence structures is in a low level
1	The quality of the contents on English sentence structures is in the lowest level

3.2.1.2 Descriptive statistics, namely arithmetic mean ($\bar{X}$) and standard deviation (S.D.) were used as follows:

-Arithmetic mean ($\bar{X}$) provides information about the average behavior of the samples with regard to specific phenomenon (Selinger & Shohamy, 2000). The formula is as follows:

$$\bar{X} = \frac{\sum x}{n}$$

Where $\bar{X}$ = Mean
 $\sum$ = Sum of
 x = Scores
 n = Number of scores

The following is the criteria of the arithmetic mean based on a five-point Likert-type scale (Brown, 2005).

Mean ($\bar{X}$)	Level of Quality
4.50 – 5.00	The Highest
3.50 – 4.49	High
2.50 – 3.49	Moderate
1.50 – 2.49	Low
1.00-1.49	The Lowest

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-Standard deviation (S.D.) provides a sort of average of the difference of all scores from the mean (Brown, 1997). The formula for standard deviation is as follows:

$$S.D. = \sqrt{\frac{\sum(X - \bar{X})^2}{n-1}}$$

Where	$S.D.$	=	Standard deviation
	Σ	=	Sum of
	X	=	Samples' scores
	$\bar{X}$	=	Mean
	n	=	Number of samples

The interpretation of the value of the standard deviation (S.D.) in this study is as follows:

- Value $S.D. = 0$ means experts' ratings for the quality of the contents are congruent.
 $0 < S.D. < 1$ means experts' ratings for the quality of the contents are quite congruent.
 $S.D. > 1$ means experts' ratings for the quality of the contents are not congruent.

In the evaluation of the contents on English sentence structures, the value of standard deviation (S.D.) must not exceed the value of 1.

3.2.2 Achievement Tests

The Index of the Item-Objective Congruence (IOC) was calculated in this study in order to evaluate the congruence between the achievement tests and the objectives. The formula for IOC is as follows (Brown, 1997):

$$IOC = \frac{\sum X}{N}$$

where	IOC	=	Index of the Item-Objective Congruence
	$\sum$	=	Sum of
	X	=	Total scores of experts
	N	=	Total number of experts

The Index of the Item-Objective Congruence (IOC) is interpreted as follows:

- +1 means the question is congruent with the objectives.
- 0 means the question is uncertain to be congruent with the objectives.
- 1 means the question is not congruent with the objectives.

After the validating process, the questions that obtained the IOC between 0.5-1.0 were deemed acceptable.

3.2.3 Computer-Assisted Language Learning (CALL)

Evaluation of the quality of CALL on English sentence structures was conducted by three experts in the field of educational technology. A five-point Likert-type scale was applied in the evaluation form with the following rating criteria:

Table 3.2 A Five-Point Likert-Type Scale on the Quality of the CALL

Likert Ratings	Rating Criteria
5	The quality of the CALL on English sentence structures is in the highest level.
4	The quality of the CALL on English sentence structures is in a high level
3	The quality of the CALL on English sentence structures is in a moderate level
2	The quality of the CALL on English sentence structures is in a low level
1	The quality of the CALL on English sentence structures is in the lowest level

Descriptive statistics, namely arithmetic mean ($\bar{X}$) and standard deviation (S.D.), were used to analyze the quality of the CALL on English sentence structures. The formulae of $\bar{X}$ and S.D. and the interpretation of the S.D. value were the same as in 3.2.1.2.

CHAPTER 4

RESULTS AND DISCUSSION

This chapter presents the results and discussions. Section 4.1 shows the results of the content validity. Section 4.2 shows the results of the achievement test evaluation. Section 4.3 presents the results of the CALL evaluation. Then, the findings are discussed in Section 4.4.

4.1 Content Validity

The results of the content validity are shown in Table 4.1.

Table 4.1 Results of the Content Validity

Evaluation List	Ratings from Experts		$\bar{X}$	S.D.	Quality Level
	Expert 1	Expert 2			
1. Contents and Presentation					
1.1 Congruence between the contents and the objectives	4	5	4.5	0.71	The Highest
1.2 Content accuracy	4	4	4	0	High
1.3 Accuracy of the content arrangement	3	5	4	1.41	High
1.4 Cohesion of the contents	4	4	4	0	High
1.5 Clarity of the contents	3	4	3.5	0.71	High
1.6 Clarity of the conclusion	4	4	4	0	High
1.7 Encouragement to increase students' comprehension	4	4	4	0	High
1.8 Appropriateness of the content quantity	3	4	3.5	0.71	High
Average			3.94	0.44	High
2. Illustrations and Language					
2.1 Appropriate utilization of illustrations	4	4	4	0	High
2.2 Language accuracy	4	4	4	0	High
2.3 Congruence between illustrations and descriptions	4	4	4	0	High
Average			4	0.00	High

Table 4.1 (Continued)

Evaluation List	Ratings from Experts		$\bar{X}$	S.D.	Quality Level
	Expert 1	Expert 2			
3. Practices					
3.1 Appropriateness	3	4	3.5	0.71	High
3.2 Clear instruction	3	4	3.5	0.71	High
3.3 Congruence between practices and objectives	4	5	4.5	0.71	The Highest
Average			3.83	0.71	High
4. Sub-Tests and Post-Test					
4.1 Coverage of the contents	4	5	4.5	0.71	The Highest
4.2 Clarity of the questions	4	5	4.5	0.71	The Highest
4.3 Assessment ability of the tests	4	5	4.5	0.71	The Highest
Average			4.5	0.71	The Highest
Overall Average			4.07	0.62	High

Table 4.1 illustrates the results of the content validity. The overall average mean ($\bar{X}$) of 4.07 with the standard deviation (S.D.) of 0.62 represents a high level of the quality of the contents. In addition, all 4 sections are rated at a high level with the average means ($\bar{X}$) of 3.94 (S.D. = 0.44), 4 (S.D. = 0.00), 3.83 (S.D. = 0.71), and 4.5 (S.D. = 0.62).

4.2 Achievement Test Evaluation

The Index of the Item-Objective Congruence (IOC) was calculated in order to evaluate the congruence between the questions in the sub-tests (62 items) and post-test (38 items) and the objectives. After the validating process, the items that obtained the IOC between 0.5-1.0 were selected as the achievement tests (the sub-tests 42 items and post-test 20 items).

4.2.1 Results of the Sub-Test Evaluation

The sub-tests were used to measure a student's mastery level of the concepts in the unit after he/ she finished learning each unit. A complete version of the sub-tests is illustrated in Appendix A. Table 4.2 below reveals the results of the sub-test evaluation of Unit 1.

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Table 4.2 The Index of the Item-Objective Congruence for the Sub-Test of Unit 1.

No.	Scores from Experts		ΣX	IOC	Interpretation
	Expert 1	Expert 2			
1) Students will be able to form seven clause types correctly. (Item 1-7)					
1	+1	+1	2	1	Congruent
2	+1	+1	2	1	Congruent
3	+1	+1	2	1	Congruent
4	+1	+1	2	1	Congruent
5	+1	+1	2	1	Congruent
6	+1	+1	2	1	Congruent
7	+1	+1	2	1	Congruent
2) Students will be able to correctly identify each element of the seven clause types. (Item 8-15)					
8	+1	+1	2	1	Congruent
9	+1	+1	2	1	Congruent
10	+1	+1	2	1	Congruent
11	+1	+1	2	1	Congruent
12	+1	+1	2	1	Congruent
13	+1	+1	2	1	Congruent
14	+1	+1	2	1	Congruent
15	+1	+1	2	1	Congruent

Table 4.2 provides the IOC of 1 for each of the 15 sub-test questions of Unit 1. The results show that all sub-test questions of Unit 1 are congruent with the objectives.

Table 4.3 The Index of the Item-Objective Congruence for the Sub-Test of Unit 2.

No.	Scores from Experts		ΣX	IOC	Interpretation
	Expert 1	Expert 2			
1) Students will be able to describe lifestyles of neighborhoods with the use of compound sentences. (Item 1-5)					
1	+1	+1	2	1	Congruent
2	+1	+1	2	1	Congruent
3	+1	+1	2	1	Congruent
4	+1	+1	2	1	Congruent
5	+1	+1	2	1	Congruent
2) Students will be able to form compound sentences with coordinating conjunctions. (Item 6-10)					
6	+1	+1	2	1	Congruent
7	+1	+1	2	1	Congruent
8	+1	+1	2	1	Congruent
9	+1	+1	2	1	Congruent
10	+1	+1	2	1	Congruent
3) Students will be able to form compound sentences with conjunctive adverbs. (Item 11-15)					
11	+1	+1	2	1	Congruent
12	+1	+1	2	1	Congruent
13	+1	+1	2	1	Congruent
14	0	+1	1	0.5	Congruent
15	+1	+1	2	1	Congruent
4) Students will be able to form compound sentences with semicolons. (Item 16-18)					
16	0	0	0	0	Incongruent
17	0	+1	1	0.5	Congruent
18	+1	+1	2	1	Congruent

From Table 4.3, the Indexes of the Item-Objective Congruence of 1 and 0.5 indicate that the sub-test questions of Unit 2, except Question 16, are congruent with the objectives.

Table 4.4 The Index of the Item-Objective Congruence for the Sub-Test of Unit 3.

No.	Scores from Experts		ΣX	IOC	Interpretation
	Expert 1	Expert 2			
1) Students will be able to form complex sentences correctly. (Item 1-5)					
1	+1	+1	2	1	Congruent
2	+1	+1	2	1	Congruent
3	+1	+1	2	1	Congruent
4	-1	+1	0	0	Incongruent
5	+1	+1	2	1	Congruent
2) Students will be able to form adverb clauses with the use of correct subordinators. (Item 6-10)					
6	+1	+1	2	1	Congruent
7	+1	+1	2	1	Congruent
8	-1	+1	0	0	Incongruent
9	+1	+1	2	1	Congruent
10	+1	+1	2	1	Congruent
3) Students will be able to form adjective clauses with the use of correct relative pronouns. (Item 11-15)					
11	+1	+1	2	1	Congruent
12	+1	+1	2	1	Congruent
13	+1	+1	2	1	Congruent
14	+1	+1	2	1	Congruent
15	+1	+1	2	1	Congruent
4) Students will be able to form noun clauses with the use of correct subordinators. (Item 16-20)					
16	+1	+1	2	1	Congruent
17	+1	+1	2	1	Congruent
18	+1	+1	2	1	Congruent
19	+1	+1	2	1	Congruent
20	+1	+1	2	1	Congruent

According to Table 4.4, the IOC of 1 indicates that the sub-test questions of Unit 3, except Questions 4 and 8, are congruent with the objectives.

Table 4.5 The Index of the Item-Objective Congruence for the Sub-Test of Unit 4.

No.	Scores from Experts		ΣX	IOC	Interpretation
	Expert 1	Expert 2			
Students will be able to form compound-complex sentences to describe what has been occurred. (Items 1–9)					
1	-1	+1	0	0	Incongruent
2	+1	+1	2	1	Congruent
3	+1	+1	2	1	Congruent
4	0	+1	1	0.5	Congruent
5	+1	+1	2	1	Congruent
6	0	+1	1	0.5	Congruent
7	+1	+1	2	1	Congruent
8	+1	+1	2	1	Congruent
9	+1	+1	2	1	Congruent

From Table 4.5, the Indexes of the Item-Objective Congruence of 1 and 0.5 indicate that the sub-test questions of Unit 4, except Question 1, are congruent with the objectives.

4.2.2 Results of the Post-Test Evaluation

The post-test was used to assess students' achievement after students finished learning all of the four units. The post-test is illustrated in Appendix B. The results of the Index of Item-Objective Congruence of the post-test are as follows:

Table 4.6 The Index of the Item-Objective Congruence for the Post-Test

No.	Scores from Experts		ΣX	IOC	Interpretation
	Expert 1	Expert 2			
Unit 1 On Holiday					
1) Students will be able to form seven clause types correctly. (Item 1-3)					
1	+1	+1	2	1	Congruent
2	+1	+1	2	1	Congruent
3	+1	+1	2	1	Congruent
2) Students will be able to correctly identify each element of the seven clause types. (Item 4-5)					
4	+1	+1	2	1	Congruent
5	+1	+1	2	1	Congruent
Unit 2: My Neighborhoods					
1) Students will be able to describe lifestyles of neighborhoods with the use of compound sentences. (Item 6-8)					
6	0	+1	1	0.5	Congruent
7	+1	+1	2	1	Congruent
8	0	+1	1	0.5	Congruent
2) Students will be able to form compound sentences with coordinating conjunctions. (Item 9-11)					
9	+1	+1	2	1	Congruent
10	+1	+1	2	1	Congruent
11	+1	+1	2	1	Congruent
3) Students will be able to form compound sentences with conjunctive adverbs. (Item 12-14)					
12	+1	+1	2	1	Congruent
13	+1	+1	2	1	Congruent
14	+1	+1	2	1	Congruent

Table 4.6 (Continued)

Table 4.6 (Continued)

No.	Scores from Experts		ΣX	IOC	Interpretation
	Expert 1	Expert 2			
4) Students will be able to form compound sentences with semicolons. (Item 15-19)					
15	+1	+1	2	1	Congruent
16	+1	+1	2	1	Congruent
17	+1	+1	2	1	Congruent
18	-1	+1	0	0	Incongruent
19	+1	+1	2	1	Congruent
Unit 3 Things around Us					
1) Students will be able to form complex sentences correctly. (Item 20-23)					
20	+1	+1	2	1	Congruent
21	+1	+1	2	1	Congruent
22	+1	+1	2	1	Congruent
23	+1	+1	2	1	Congruent
2) Students will be able to form adverb clauses with the use of correct subordinators. (Item 24-27)					
24	+1	+1	2	1	Congruent
25	+1	+1	2	1	Congruent
26	+1	+1	2	1	Congruent
27	+1	+1	2	1	Congruent
3) Students will be able to form adjective clauses with the use of correct relative pronouns. (Item 28-30)					
28	+1	+1	2	1	Congruent
29	+1	+1	2	1	Congruent
30	+1	+1	2	1	Congruent

Table 4.6 (Continued)

Table 4.6 (Continued)

No.	Scores from Experts		ΣX	IOC	Interpretation
	Expert 1	Expert 2			
Unit 3 Things around Us					
Students will be able to form noun clauses with the use of correct subordinators. (Item 31-33)					
31	0	+1	1	0.5	Congruent
32	+1	+1	2	1	Congruent
33	+1	+1	2	1	Congruent
Unit 4 My Notebook					
Students will be able to form compound-complex sentences to describe what has been occurred. (Item 34-38)					
34	+1	+1	2	1	Congruent
35	+1	+1	2	1	Congruent
36	-1	+1	0	0	Incongruent
37	-1	+1	0	0	Incongruent
38	+1	+1	2	1	Congruent

From Table 4.6, the results show that 35 test items, except the questions 18, 36 and 37, are congruent with the objectives.

The total number of questions for the sub-tests and the post-test before and after IOC calculation is concluded in Table 4.7.

Table 4.7 Total Number of Questions for the Sub-Tests and the Post-Test Before and After IOC Calculation

Unit	Total Number of Questions Before IOC Calculation	Total Number of Questions After IOC Calculation
Sub-Tests		
Unit 1: On Holiday (Simple sentences)	15	7 (Questions 1, 3, 6-7, 9, 11-12)
Unit 2: My Neighborhoods (Compound sentences)	18	15 (Questions 1-5, 6-10, 11-15)
Unit 3: Things around Us (Complex sentences)	20	15 (Questions 1-3, 5-7, 10-14, 17-19)
Unit 4: My Notebook (Compound-complex sentences)	9	5 (Questions 2-3, 7-9)
Sub-Tests	62	42
Post-Test		
Unit 1: On Holiday (Simple sentences)	5	4 (Questions 1-2, 4-5)
Unit 2: My Neighborhoods (Compound sentences)	14	7 (Questions 7, 9-10, 12-13, 15-16)
Unit 3: Things around Us (Complex sentences)	14	7 (Questions 21, 24-25, 29-30, 32-33)
Unit 4: My Notebook (Compound-complex sentences)	5	2 (Questions 34 and 38)
Post-Test	38	20

The overall selected achievement tests consisted of 62 multiple-choice questions, which were divided into two tests: sub-tests (42 items) and post-test (20 items).

4.3 CALL Evaluation

Table 4.8 Results of the Media Production Technique Evaluation

Evaluation List	Ratings from Experts			$\bar{X}$	S.D.	Quality Level
	Expert 1	Expert 2	Expert 3			
1. Fonts						
1.1 Font sizes	4	4	3	3.67	0.58	High
1.2 Appropriateness of font types	5	5	3	4.33	1.15	High
1.3 Appropriateness of font colors	4	4	3	3.67	0.58	High
Average				3.89	0.77	High
2. Illustrations						
2.1 Clear illustrations	4	4	1	3	1.73	Moderate
2.2 Appropriateness of illustration ratio on the screen	5	3	1	3	2	Moderate
2.3 Sizes of illustrations and presentation speed	4	4	4	4	0	High
2.4 Types of graphic file	4	4	3	3.67	0.58	High
Average				3.42	1.08	Moderate
3. Animation						
3.1 Loading speed of animation	5	4	3	4	1	High
3.2 Appropriateness of sizes and positioning on the screen	5	4	2	3.67	1.53	High
3.3 Types of animation file	5	4	2	3.67	1.53	High
Average				3.78	1.35	High
4. Colors						
4.1 Attractiveness of colors	5	4	3	4	1	High
4.2 Appropriateness of colors	5	4	2	3.67	1.53	High
4.3 Color resolution	4	3	2	3	1	Moderate
4.4 Distinctiveness of colors used to highlight information	4	4	2	3.33	1.15	Moderate
Average				3.5	1.17	High

Table 4.8 (Continued)

Evaluation List	Ratings from Experts			Average		Quality Level
	Expert 1	Expert 2	Expert 3	$\bar{X}$	S.D.	
5. Menus						
5.1 Menus covering all of the contents	5	5	3	4.33	1.15	High
5.2 Appropriateness of menus in each unit	4	4	3	3.67	0.58	High
5.3 Appropriateness of courseware menus	4	4	3	3.67	0.58	High
Average				3.89	0.77	High
6. Symbols, Graphics, and Buttons						
6.1 Communication	4	4	1	3	1.73	Moderate
6.2 Sizes	4	4	1	3	1.73	Moderate
6.3 Positioning	3	4	1	2.67	1.53	Moderate
Average				2.89	1.66	Moderate
7. Content arrangement						
-Appropriateness of the content arrangement in each page	4	4	2	3.33	1.15	Moderate
Average				3.33	1.15	Moderate
8. Time						
8.1 Time appropriateness in each unit	4	4	2	3.33	1.15	Moderate
8.2 Time appropriateness as a whole	4	4	2	3.33	1.15	Moderate
Average				3.33	1.15	Moderate
Overall Average				3.51	1.14	High

Table 4.11 illustrates the results of the media production technique. The overall average mean ($\bar{X}$) of 3.51 with the standard deviation (S.D.) of 1.14 represents a high level of the quality of the media production technique. In addition, the 4 sections (Sections 1, 3, 4-5) are rated at a high level with the average means ($\bar{X}$) of 3.89, 3.78, 3.5, and 3.89. The 4 sections (Sections 2, 6-8) are rated at a moderate level with the average means ($\bar{X}$) of 3.42, 2.89, 3.33, and 3.33.

4.4 Discussion

According to the results of the content validity, the overall average mean ($\bar{X}$) of 4.07 with the standard deviation (S.D.) of 0.62 represents a high level of the quality of the contents. Experts' ratings for the quality of the contents are quite congruent. As shown in Table 4.1, the sections, namely Contents and Presentation; Illustrations and Language; Practices; and Sub-Tests and Post-Test are rated at a high level with the average means of 3.94 (S.D. = 0.44), 4 (S.D. = 0), 3.83 (S.D. = 0.71), and 4.50 (S.D. = 0.71), respectively.

In the section of Contents and Presentation, the congruence between the contents and the objectives represents the highest quality level. The result shows that the contents were constructed according to the objectives. According to Souvener (1994), it is useful to be able to state what the objectives are in the contents because the objectives will determine the way in the contents. For example, to follow Objective 1: Students will be able to form seven clause types correctly, the contents include simple sentences with the seven clause types.

Regarding the results of the quality of the illustrations and the language, experts' ratings for the quality of the contents are congruent. The language in the courseware is accurate, for it was approved for accuracy and appropriateness by the advisor. The utilization of illustrations is appropriate with the contents of each unit. Moreover, the descriptions can describe the illustrations. The congruence between illustrations and descriptions can help students comprehend the contents. Thorsen (2003) also supported that text-heavy documents are perceived as difficult to read. Therefore, text should be accompanied by illustrations because these elements make documents visually appealing.

With regard to the quality of the practices, the congruence between the practices and the objectives represents the highest quality level. The result indicates that the practices were constructed according to the objectives. As claimed by Carey (1994), practices should be designed to cover the corresponding objectives.

In addition, the average mean of 4.5 with the S.D. of 0.71 represents the highest level of the quality of the sub-tests and the post-test. Experts' ratings for the quality of the contents are quite congruent. The results indicate that the test items cover the contents of the units. Moreover, the questions are easy to be understood and the tests can assess students' knowledge. As claimed by Airasian (2005), the construction of the tests should clearly relate to the objectives of the instruction, include enough questions to assess all or most of the objectives, and use assessment methods suited to the backgrounds and prior experiences of the students.

For the sub-test item 16 of Unit 2, as shown in Table 4.3, the IOC of 0 shows that the question is incongruent with the objective 4. Both experts stated that students can guess the answer from the objectives by rejecting the answer choices a and b. They suggested that the punctuation in the answer choices a and b should be changed from comma (,) to semi-colon (;). The Question 16 is shown as follows:

Objective 4: Students will be able to form compound sentences with semicolons.

Question 16: Choose the correct sentence.

- a) Minnie was hungry, so she didn't like pizza.
- b) Minnie was happy, but she didn't join the party.
- c) Minnie was sad; she didn't eat any food.
- d) Minnie must take medicine after meal; her mother has gone to Hong Kong.

However, the students cannot guess the answer from the objectives because the objectives are not shown in the test provided for the students. For the sub-test of Unit 3, as shown in Table 4.4, Question 4 is incongruent with the objective 1. The experts provided the comment that the direct speech is not taught in the unit, so it should not have been included in the test. The Question 4 is shown as follows:

Objective 1: Students will be able to form complex sentences correctly.

Question 4: Mr. Pradya said, "I have a record of heart disease". Two clauses can be joined as

-
- a) Mr. Pradya said if he had a record of heart disease.
 - b) Mr. Pradya said what he had a record of heart disease.
 - c) Mr. Pradya said that he had a record of heart disease.
 - d) Mr. Pradya said who he had a record of heart disease.

Moreover, Question 8 is incongruent with the objective 2 because there is no sample sentence stating the use of subordinator "whereas" to form the adverb clauses in the unit. We should not test what have not been taught. Airasian (2005) claimed that a valid test is one that provides students a fair opportunity to show what they have learned from instruction. The Question 8 is shown below:

Objective 2: Students will be able to form adverb clauses with the use of correct subordinators.

Question 8: A robot cannot think creatively, a human worker can.

- a) as far as
- b) as often as
- c) whereas
- c) as soon as

According to Table 4.5, the results show that Question 1 is incongruent with the objective because the question is quite similar to the sample sentence in the unit. Students may choose the correct answer in accordance with the sample sentence. The Question 1 is shown as follows:

Objective: Students will be able to form compound-complex sentences to describe what has been occurred.

Question 1: Which of the following sentences is a compound-complex sentence?

- a) Helen went to the movies.
- b) Peter lost the laptop which he borrowed from Miki, so he couldn't face with her again.
- c) Matthew whose hair is dark brown is my uncle.
- d) Judy was sick; however, she went to the office.

For the post-test, as shown in Tables 4.6, Question 18 is incongruent with the objective 4 because in the answer choice c, the two independent clauses are joined together with the wrong conjunctive adverb. Compared to the answer choices a, b and d, the difference in structure may signal the answer choice c as the correct answer. Therefore, a semicolon should be used to join the two independent clauses that are not related in meaning. The Question 18 is shown as follows:

Objective 4: Students will be able to form compound sentences with semicolons.

Question 18: Choose the incorrect sentence.

- a) Alicia didn't have breakfast; she was hungry.
- b) Luna hadn't brought her umbrella; she got very wet.
- c) You can't come; otherwise, you can meet us there.
- d) David woke up late; he missed the bus.

Questions 36 and 37 are incongruent with the objective because the answers can be guessed from the objective; as a result, they cannot check students' understanding. The Questions 36 and 37 are shown as follows:

Objective: Students will be able to form compound-complex sentences to describe what has been occurred.

Question 36: Randy went to the beach, but he hadn't worn a lifebuoy that could save him. This sentence is a

- a) simple sentence
- b) compound sentence
- c) complex sentence

Question 37: Although Pohu got a new job, he won't leave this city, and his family won't move away. This sentence is a

- a) simple sentence
- b) compound sentence
- c) complex sentence

Nevertheless, the students cannot guess the answers from the objectives because the objectives are not shown in the test provided for the students.

For the evaluation of the quality of CALL, the overall average mean ($\bar{X}$) of 3.51 with the standard deviation (S.D.) of 1.14 represents a high level of the quality of the media production technique. However, the S.D. value shows that the experts' ratings for the quality of the contents are not congruent. As shown in Table 4.8, the sections, namely Fonts, Animation, Colors, and Menus, are rated at a high level with the average means ($\bar{X}$) of 3.89 (S.D. = 0.77), 3.78 (S.D. = 1.35), 3.5 (S.D. = 1.17), and 3.89 (S.D. = 0.77), respectively.

According to the high quality level of the fonts, the font types 'Tahoma' and 'Century Gothic' were selected to display on a computer screen. 'Tahoma' and 'Century Gothic' fonts have letters with straight lines and no curls or appendixes. They are neat, defined, and clean (Rossi, 2002; Gill & Perera, 2003; Russell-Minda, Jutai & Strong, 2006). Moreover, Hartman (2006) supported that they often look bold and modern. They are mostly used for titles, captions, and callouts. Rossi (2002) emphasized that these fonts are definitely readable in the presentation.

They are also more legible on a computer screen (Gill & Perera, 2003; Russell-Minda, Jutai & Strong, 2006).

In addition, the font sizes which are appropriate for the computer screen are 14 and 18. The font colors are dark, so they provide an obvious visual contrast with the light backgrounds. Alessi (1991) stated that a bigger font is better. Font colors should be in the range black to dark blue for light backgrounds. Cunningham (1998) pointed out that it is important to limit a presentation to one or two letter fonts, styles and/or font colors, and then be consistent in how to use them, such as to show captions, headings, subheadings, and so on. Any designs and colors in the background must not conflict with the text, and the background and text adequately contrast each other. The letterings should be dark color when they are on light backgrounds. Besides, Radecki (1994) stated that the best way to ensure adequate readability is by using contrasting colors for foreground, including titles, text, and graphics and backgrounds.

Regarding the menus section, the menus which can be compared to a table of contents (Chan & Korostoff, 1984) will guide students the contents in each unit (Thorsen, 2003). The menus, On Holiday, My Neighborhoods, Things around Us, and My Notebook were designed according to the difficulty level, ranging from simple, compound, complex, to compound-complex sentences.

According to the quality of the symbols, graphics and buttons, the average mean of 2.89 with the S.D. of 1.66 represents the moderate quality level, and the experts' ratings for the quality of the media production technique are not congruent. The display buttons were not the same position, so it may be difficult for students to figure out. Consequently, their proper sizes and positioning should be designed. In addition, navigation buttons should be kept in the same position from one screen to the next (Thorsen, 2003).

CHAPTER 5

CONCLUSION AND SUGGESTIONS

This chapter presents conclusion of the study and suggestions for further studies.

5.1 Conclusion of the Study

The purpose of the study is to develop computer-assisted language learning (CALL) on English sentence structures. The CALL on English sentence structures was specifically designed for upper-intermediate to advanced English language learners. The contents were related to four types of English sentence structures: simple, compound, complex and compound-complex sentences, which were provided in *“Writing Academic English”* written by Hogue & Oshima (2006) and in *“A University Grammar of English”* written by Quirk & Greenbaum (1973). Each unit consists of objectives, practices, grammar and grammar review. The development of CALL was delivered in compact disk-read only memory (CD-ROM).

After the construction of the contents and the achievement tests, the quality of the contents and the achievement tests were evaluated by two experts in the field of English teaching. According to the results of the content validity, the overall average mean ($\bar{X}$) of 4.07 with the standard deviation (S.D.) of 0.62 represents a high level of the quality of the contents. The result of the S.D. shows that experts' ratings for the quality of the contents are quite congruent.

Regarding the results of the achievement tests, the Index of the Item-Objective Congruence (IOC) was calculated in order to evaluate the congruence between the questions in the sub-tests (62 items) and post-test (38 items) and the objectives. The items that obtained IOC values between 0.5-1.0 were selected. Forty-two items were selected for the sub-tests and twenty items were selected for the post-test.

After the development of the CALL with the use of the program 'Macromedia Authorware version 7.0', the media production technique of the CALL was evaluated by three experts in the field of educational technology. The overall average mean ($\bar{X}$) of 3.51 with the standard deviation (S.D.) of 1.14 represents a high level of the quality of the media production technique. From the result of the S.D., the experts' ratings for the quality of the media production technique are not congruent.

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5.2 Suggestions for Further Studies

There are three suggestions derived from this study.

5.2.1 A variety of practices in each unit should be provided in order that students will gain deeper understandings and induce rules and generalizations on their own, based on an inductive approach.

5.2.2 As the CALL in this study was only developed with the use of graphics and transitions, three-dimensional animation should be designed in order to motivate students' learning.

5.2.3 An efficiency of CALL on English sentence structures should be evaluated by having students learn the CALL in order to assess whether it can improve students' achievement.



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APPENDICES

Appendix A: Contents

**Appendix B: The Index of the Item-Objective Congruence (IOC) Form
of Sub-Tests**

**Appendix C: The Index of the Item-Objective Congruence (IOC) Form
of Post-Test**

Appendix D: Evaluation Forms (English Version)

Appendix E: Evaluation Forms (Thai Version)

Appendix F: Official Letters



Unit 1

On Holiday

Objectives

- 1) Students will be able to comprehend and form seven clause types explaining activities on holiday.
- 2) Students will be able to correctly identify each element of the seven clause types.

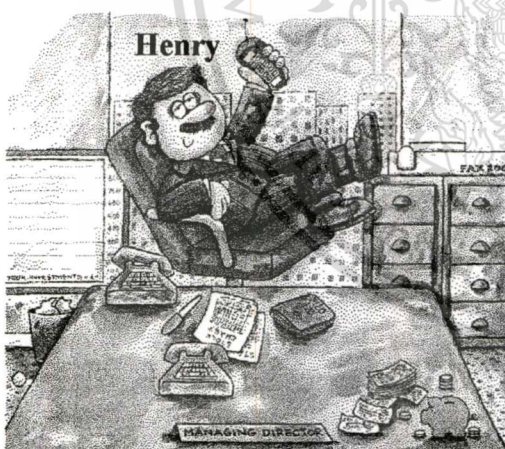
Study the following situations.

Practice 1

Look at each picture below. Then choose the correct word to fill in the space.

her is eating in the office Larry is enjoyable her umbrella
a piece of pizza a managing director is sleeping hung his birthday

Henry and Sally must work on holiday.



What is Henry?

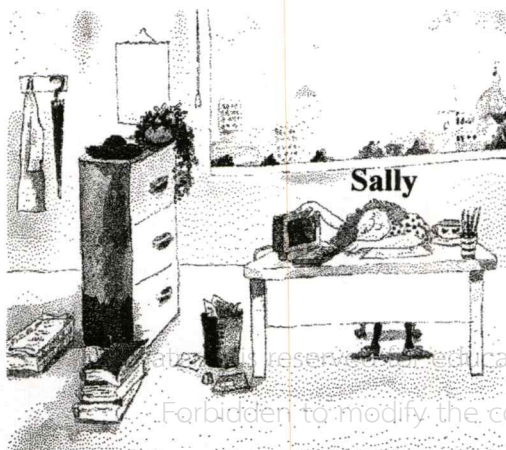
He is a managing director.

S V C

Where is he?

He is in the office.

S V A



What is Sally doing?

She is sleeping.

S V

Where did she hang her umbrella?

She hung her umbrella on the hanger.

S V O A

Practice 1 (Continued)

Look at each picture below. Then choose the correct word to fill in the space.

her is eating in the office Larry is enjoyable her umbrella
a piece of pizza a managing director is sleeping hung his birthday



Emma



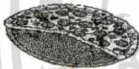
Larry

Larry goes to Emma's house on his holiday.

Why does Emma look happy?

Larry gives her a big present.

S V O O



Mark

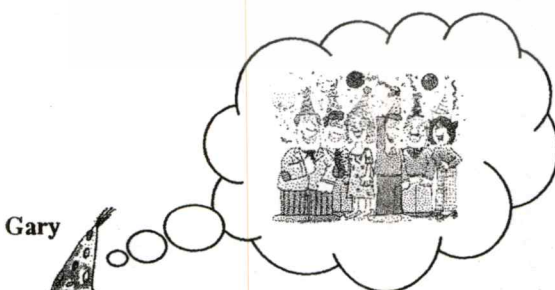


After swimming, Mark felt hungry. He went to the restaurant, and ordered food from the menu.

What is he eating?

He is eating a piece of pizza.

S V O



Gary

Today is Gary's birthday.

Why does he look sad?

He hoped his birthday enjoyable.

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Grammar

A simple sentence contains one independent clause. It can be divided into 7 clause types according to Quirk & Greenbaum (1973). The elements of the simple sentence structures are subject (S), verb (V), object (O), complement (C) and adverbial (A).

Subject (S)

A subject is a noun phrase with nominal function. It occurs before the verb phrases in declarative clauses, and after the auxiliary verbs (be, have, do) or modal verbs (shall, will, can, must, may, should, would, could, might) in questions.

Christ sings in the church.

S

Robert listened to the radio.

S

Do you have a LCD projector?

S

Could I borrow your pencil?

S

Verb (V)

A verb is a verb phrase that follows the subject and precedes the object, complement, or adverbial. A transitive verb (tv) takes a direct object whereas an intransitive verb (iv) does not require an object.

Genie is reading a newspaper.

tv

Tina is jogging.

iv

Object (O)

An object, like a subject, is a noun phrase with nominal function. It follows the subject and the verb phrase. There are two types of objects, i.e. a direct object (O_d) and an indirect object (O_i). The indirect object always precedes the direct object.

Kristy gave me a pen.

O_i O_d

Complement (C)

A complement is a noun phrase or an adjective phrase, having a co-referential relation with a subject or an object. A subjective complement (C_s) comes after a linking verb to refer back to refer back to the subject and has the same identity as the subject. An objective complement (C_o) follows the direct object and has the same identity as the direct object. only, not allowed for commercial use.

Steve is a chef.

C_s

General Manager considered him an executive chef.

C_o

Subject and object complements have the additional possibility of being realized by adjective phrases (having an adjective as head) as follows:

Peter is clever.

C_s

Ted made his wife angry.

C_o

Adverbial (A)

An adverbial can be realized by adverb phrases, by noun phrases, or by preposition phrases, as shown as follows:

Staib very carefully searched the room.

Adverb phrase

They make him the chairman every year.

Noun phrase

A lot of people were at the funeral.

Preposition phrase

There are 7 clause types from Practice 1. Look at each clause type in the table below.

Then complete the table with the following correct words.

Mark her umbrella is Sally Henry in the office
is eating a big present hoped is sleeping gives enjoyable

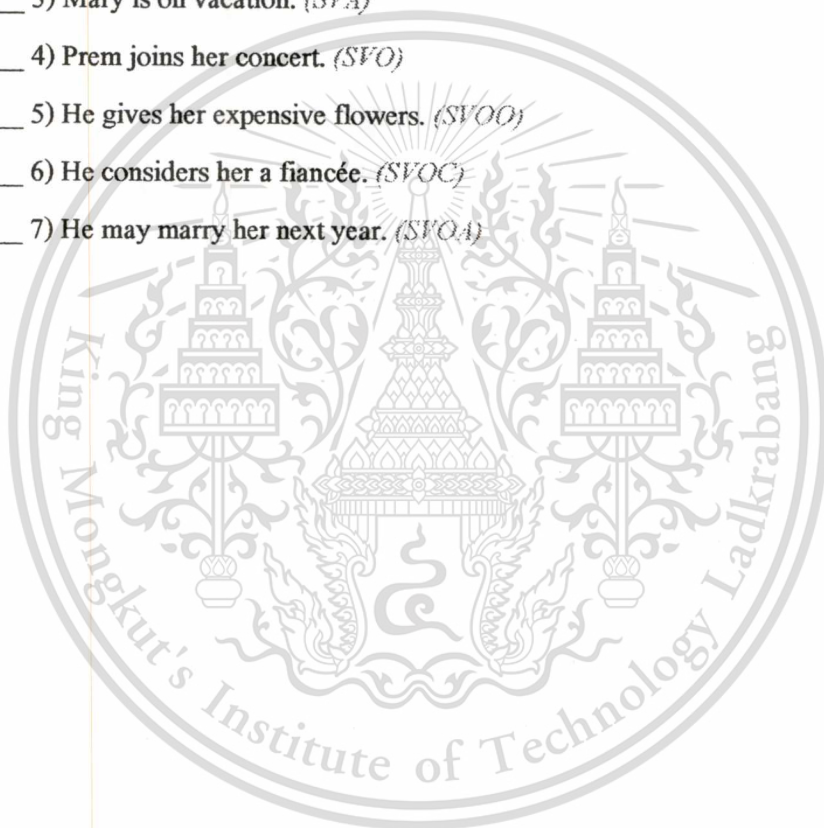
S(subject)	V(erb)	O(bject)(s)	C(omplement)	A(dverbial)	Clause types
Henry	is	-	-	in the office	SVA
Henry	is	-	a managing director	-	SVC
Mark	is eating	a piece of pizza	-	-	SVO
Sally	hung	her umbrella	-	on the hanger	SVOA
Gary	hoped	his birthday	enjoyable	-	SVOC
Larry	gives	her	-	-	SVOO
		a big present			
Sally	is sleeping	-	-	-	SV

Grammar Review

Choose the correct clause types of sentences.

- a) *SVA* b) *SVC* c) *SV* d) *SVA*
 e) *SVOO* f) *SVOC* g) *SVOA*

- _____ 1) Tata is a singer. (*SVC*)
 _____ 2) She is singing. (*SV*)
 _____ 3) Mary is on vacation. (*SVA*)
 _____ 4) Prem joins her concert. (*SVO*)
 _____ 5) He gives her expensive flowers. (*SVOO*)
 _____ 6) He considers her a fiancée. (*SVOC*)
 _____ 7) He may marry her next year. (*SVOA*)



Unit 2

My Neighborhood

Objectives

- 1) Students will be able to describe lifestyles of neighborhoods with the use of compound sentences.
- 2) Students will be able to form compound sentences with coordinating conjunctions.
- 3) Students will be able to form compound sentences with conjunctive adverbs.
- 4) Students will be able to form compound sentences with semicolons.

Study the following situations:

This is the apartment where I live. Let you know my neighborhoods.



Practice 1 Put the following clauses into the blanks.*no one has seen her**I don't know her*

My neighborhood showed me this photograph and asked, "Do you know her?"

The possible answers are ...

I don't know her. **and** no one has seen her. = (IDC, ___ IDC)
 Independent clause (IDC) IDC

Coordinator

I don't know her. **moreover,** no one has seen her. = (IDC; ___, IDC)
 IDC IDC

Conjunctive adverb

I don't know her. **;** no one has seen her. = (IDC; IDC)
 IDC IDC

*Semicolon***Practice 2 Put the following clauses into the blanks.***his mother did not hear him**the child cried loudly*

On Sunday, while Lisa was working in the living room, her child was sleeping. Then her colleague called her. While she was talking on the phone, her child woke up and cried.

The child cried loudly. **but** his mother did not hear him.
 IDC IDC

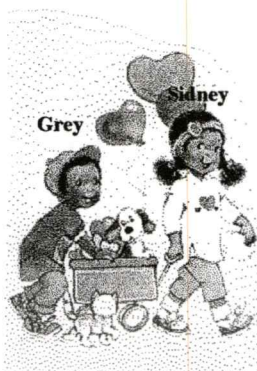
Coordinator

The child cried loudly. **however,** his mother did not hear him.
 IDC IDC

Conjunctive adverb

The child cried loudly. **;** his mother did not hear him.
 IDC IDC

Semicolon

Practice 3 Put the following clauses into the blanks.*you should stay home**you will go to the market*

Grey and Sidney are Mary's children. Mary is going to the market.

Mary said to her children.

The possible statements can be:

You will be here, or you will go to the market.
 IDC Coordinator IDC

You should stay home; otherwise I will punish you.
 IDC Conjunctive adverb IDC

Practice 4 Put the following clauses into the blanks.*I was late**I lost my way*

Sam had a date with Anne, but he was late. Anne asked, "Why are you late?"

The possible answers are ...

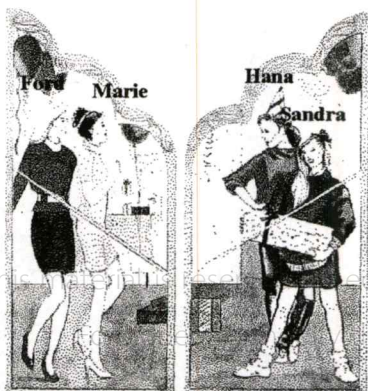
I lost my way, so I was late.
 IDC Coordinator IDC

I lost my way; therefore, I was late.
 IDC Conjunctive adverb IDC

(I lost my way; I was late.)
 IDC Semicolon IDC

**Practice 5 Put the following clauses into the blanks.***he will surprise her**Nobody tells her about Adam*

Today is Marie's birthday, so we are going to have a party. Adam is Marie's husband. He works abroad, and he will come to surprise her.



Nobody tells her about Adam, for he will surprise her.
 IDC Coordinator IDC

Nobody tells her about Adam; he will surprise her.
 IDC Semicolon IDC

Grammar

A **compound sentence** is a sentence that contains two independent clauses joined by

- 1) A **coordinating conjunction** = (IDC, ____ IDC)
- 2) A **conjunctive adverb** = (IDC; ____, IDC)
- 3) A **semicolon** = (IDC; IDC)

1) A coordinating conjunction = (IDC, ____ IDC)

Put the following clauses into the blanks.

<i>I lost my way</i>	<i>no one has seen her</i>	<i>you will go to the market</i>
<i>He was very bad at math</i>	<i>the child cried loudly</i>	
<i>nobody tells her about Adam</i>	<i>they do not eat a lot of red meat</i>	

'for' is used to express a reason.

Ex Nobody tells her about Adam, **for** he will surprise her.
 IDC Coordinator IDC

'and' is used to express a similar, equal idea.

Ex I don't know her, **and** no one has seen her.
 IDC Coordinator IDC

'nor' is used to express a negative equal idea.

Ex They do not eat a lot of red meat, **nor** do they eat dairy products.
 IDC Coordinator IDC

'but' is used to express an opposite idea.

Ex The child cried loudly, **but** his mother did not hear him.
 IDC Coordinator IDC

'or' is used to express an alternative possibility.

Ex You will be here, **or** you will go to the market.
 Coordinator

'yet' is used to express an unexpected or surprising continuation.

Ex He was very bad at math, **yet** he passed the engineering's entrance exam.
 IDC Coordinator IDC

'so' is used to express an expected result.

Ex I lost my way, **so** I was late.
 IDC Coordinator IDC

2) A conjunctive adverb = (IDC; ____, IDC)

(NOTE: Put a semicolon before and a comma after the conjunctive adverb.)

Put the following clauses into the blanks.

his mother did not hear him

I was late

colors can have different meanings

tuition at private schools is high

no one has seen her

I will punish you

If the sentences express similar or equal ideas, use a conjunctive adverb (*also, besides, furthermore, in addition, moreover, as well, too*) to combine them.

Ex. I don't know her; moreover, no one has seen her.
IDC Conjunctive adverb IDC

Ex. Computer is instructive; also/ besides/ furthermore/ in addition, it is entertaining.

Ex. Lanna is kind; she is generous as well/ too.

If the sentences express unexpected or surprising continuation, use a conjunctive adverb (*however, nevertheless, nonetheless, still*) to combine them.

Ex. The child cried loudly; however, his mother did not hear him.
IDC Conjunctive adverb IDC

Ex. The sun is shining; nevertheless, It'll rain.

Ex. The cost of attending a community college is low; nonetheless, many students need financial aid.

Ex. She has plenty of money; still, she is unhappy.

If the sentences express a complete contrast, use a conjunctive adverb (*on the other hand, in contrast*) to combine them.

Ex. Tuition at a community college is low; on the other hand/ in contrast, tuition at private schools is high.
IDC Conjunctive adverb IDC

If the sentences express an alternative possibility, use a conjunctive adverb (*otherwise*) to combine them.

Ex. You should stay home; otherwise, I will punish you.
IDC Conjunctive adverb IDC

If the sentences express an expected result, use a conjunctive adverb (*accordingly, as a result, consequently, hence, therefore, thus*) to combine them.

Ex. I lost my way; therefore, I was late.
 IDC Conjunctive adverb IDC

Ex. Thailand lies very near to the equator; accordingly/ as a result/ consequently/ hence/ thus, the weather is very hot all the year round.

If the sentences express an example, use a conjunctive adverb (*for example, for instance*) to combine them.

Ex. Colors can have different meanings; for example, white is the color of weddings in some cultures and of funerals in others.
 IDC Conjunctive adverb IDC

Ex. Most colleges now have a writing requirement of graduation; for instance, students at my college must pass a writing test before their final semester.

3) A Semicolon = (IDC; IDC)

A compound sentence is possible only when the two independent clauses are closely related in meaning. If they are not closely related, they should be written as two simple sentences, each ending with a period.

Put the following clauses into the blanks.

I don't know her *I was late* *the child cried loudly*

Ex. I don't know her; no one has seen her.
 IDC Semicolon IDC

The child cried loudly; his mother did not hear him.
 IDC Semicolon IDC

I lost my way; I was late.
 IDC Semicolon IDC

Grammar Review

Which of the following sentences is a compound sentence? Mark ✓

- _____ 1) He always cries, so I cannot sleep. (✓)
- _____ 2) You should stay at home.
- _____ 3) I will tell her; the problem will be solved. (✓)
- _____ 4) I lost my way; therefore, I was late. (✓)
- _____ 5) The child is crying loudly.



Unit 3

Things around Us

Objectives

- 1) Students will be able to comprehend and form complex sentences to talk about the characteristics of people, animals and things.
- 2) Students will be able to form adverb clauses with the use of correct subordinators.
- 3) Students will be able to form adjective clauses with the use of correct relative pronouns.
- 4) Students will be able to form noun clauses with the use of correct subordinators.

Practice 1

Study the following situations. Then choose the correct clause to fill in the space.

where they get the lowest prices

as if he were a superstar

it hurts

Tony has got a pain in his stomach after his stomach operation 2 weeks ago, so he went to the clinic.

Doctor: Hi, Tony. What's the matter?

Tony: I'm not feeling very well. My stomach hurts.

Doctor: When does your stomach hurt?

Tony: It hurts ^{Subordinator} when I eat something.
IDC Adverb clause

Chart will open a boutique, and he is looking for a good location.

Chart: Where do most people shop?

Malee: Most people shop where they get the lowest prices.
IDC Adverb clause

Pearl and Pie are watching TV. Pearl pointed to a cute guy on TV.

Pearl: What a cute guy! Do you know him?

Pie: Yes. He is Patrick, but I don't like him. He acts as if he were a superstar.
IDC Adverb clause

Practice 2

Study the following situations. Then choose the correct clause to fill in the space.

so that no one can recognize them

fire had destroyed the trees in the forest

I don't visit my parents

The forest ranger led tourists to go for a walk through the forest. Then a tourist saw many running wild animals.

Tourist: What's happening?

The forest ranger saw smoke and many wild animals running.

The forest ranger: Fire had destroyed the trees in the forest *Subordinator*
as far as you could see.
IDC *Adverb clause*

Cheer meets Sofia by chance. Sofia is going to visit her parents in Tak.

Cheer: Hi! Sofia. Where are you going?

Sofia: Hi! I'm going to visit my parents.

I don't visit my parents *Subordinator*
as often as they would like to do.
IDC *Adverb clause*

I've got a long weekend, so I intend to visit them. Would you like to go with me?

Cheer: I'm afraid. I can't. I have to work. If you meet my parents, please tell them that I will visit them at the end of year.

The child is looking at the picture in the Hello magazine.

Child: Why do actors wear dark glasses?

Mom: They wear dark glasses so that no one can recognize them.
IDC *Adverb clause*

Practice 3

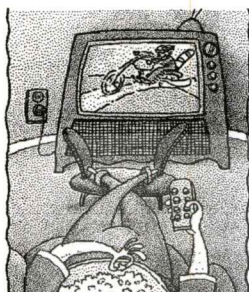
Study each situation below. Then choose the correct clause to fill in the space.

Stephan rides so quickly

if you work hard

because it was cheap

our new house is quite comfortable



Danny came, while Tom was watching the sport channel.

Danny: What's going on?

Tom: Stephan rides so quickly (that) no one can follow him.

Subordinator

IDC

Adverb clause

I guess he will win this race.

Ted and Nancy are friends, and he is also her boss.

Nancy: How can I get a promotion?

Ted: If you work hard, you will get a promotion.

Adverb clause

IDC



Jane heard that Patty and her friends bought a new house.

Jane: How is your new house?

Patty: Our new house is quite comfortable

even though it is small.

Subordinator

IDC

Adverb clause

Hudson shows Ben his new shirt.

Ben: Why did you buy this shirt?

Hudson: I bought this shirt because it was cheap.

IDC

Adverb clause



Grammar

A **complex sentence** is a sentence that consists of one independent and one (or more) dependent clause(s). In complex sentence, one idea is generally more important than the other. We place the more important idea in the independent clause and the less important idea in the dependent clause.

A **dependent clause** begins with a subordinator such as *when, while, if, that or who*. A dependent clause does not express a complete thought, so it is not a sentence by itself. By itself, it is an incomplete sentence, and it is an error.

There are 3 kinds of dependent clauses: adverb, adjective, and noun clauses.

1) Complex sentences with adverb/ adverbial clauses

An adverb clause acts like an adverb; that is, it tells where, when, why and how. An adverb clause begins with a subordinator, such as *when, while, because, although, so that or if*. It can come before or after an independent clause. If an adverb clause comes before an independent clause, put a comma after it. If it comes after an independent clause, do not use a comma. (Exception: Always use a comma with *while* and *whereas*. Also, many writers always use a comma with *although, though, and even though*.)

There are various kinds of adverb clauses as follows:

Look at each clause type below. Then choose the correct clause to fill in the space.

before the doctor arrived.

after the Second World War had ended.

when I eat something

as soon as the bell rings

Time clauses

We use subordinators '*when, whenever, while, as soon as, after, since, as, before, or until*' to answer the question "When?"

Ex. It hurts when I eat something.

They talk of old times *whenever* they meet.

I knew her well *while* I was in London.

As soon as the bell rings, students will go home.

I was born after the Second World War had ended.

He has been here *since* the sun rose.

The thief was caught *as* he was getting off a taxi.

She had died before the doctor arrived.

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They will live here *until* the last day comes.

Forbidden to modify the content, and cite the document when use.

Look at each clause type below. Then choose the correct clause to fill in the space.

as often as they would like

where they get the lowest prices

so that no one would recognize them

as far as the eye could see

as if he were a superstar

Places clauses

We use subordinators '*where, wherever, everywhere, or anywhere*' to answer the question "Where?"

Ex. Most people shop where they get the lowest prices.

He will go *wherever/ everywhere/ anywhere* she goes.

Clauses of manner

We use subordinators '*as, as if, or as though*' to answer the question "How?"

Ex. He acts as if he were a superstar.

He works *as a machine* does.

He acted *as though he had been a chef*.

Distance clauses

We use subordinators '*as+adverb+as*' to answer the question "How far?"

Ex. Fire had destroyed the trees in the forest as far as the eye could see.

Frequency clauses

We use subordinators '*as+adverb+as*' to answer the question "How often?"

Ex. I do not visit my parents as often as they would like to do.

Purpose clauses

We use subordinators '*so that, in order that*' to answer the question "For what intention?"

Ex. They wore dark glasses so that no one would recognize them.

Some people live *in order that* they may eat.

Grammar Review

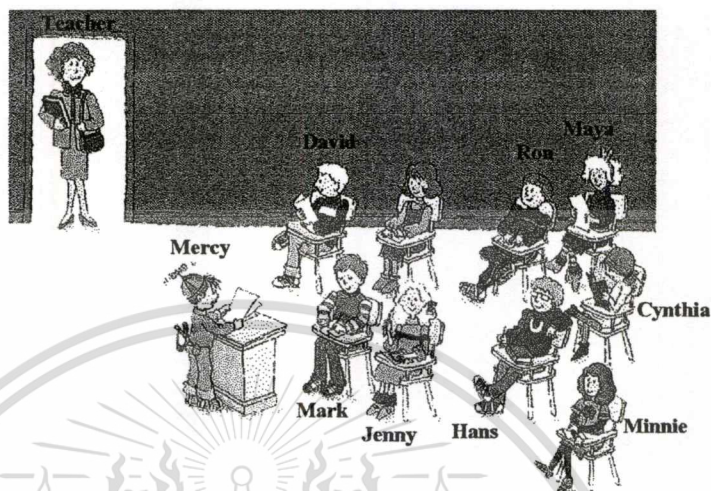
Choose the correct clause types of adverb clauses.

- | | | |
|-----------------------------------|------------------------|----------------------|
| a) Time clauses | b) Places clauses | c) Clauses of manner |
| d) Distance clauses | e) Frequency clauses | f) Purpose clauses |
| g) Result clauses | h) Conditional clauses | |
| i) Contrast clauses of concession | j) Reason clauses | |

- f 1. They wear dark glasses **so that** they don't look blind.
- c 2. He treats me **as if** I were a machine.
- g 3. She runs **so quickly (that)** no one can follow her.
- d 4. The young girl ran **as far as** she could.
- a 5. She ran away **when** she saw us.
- h 6. **If** you work hard, you will pass the exam.
- e 7. I do not visit my son **as often as** he would like me to.
- j 8. I will get there, **even though** I have to walk all day.
- h 9. I bought this shirt **because** it was colorful.
- b 10. I will go **where** you go.

Look at the picture below:

At Jenny's classroom, let you know her teacher and her classmates.



Practice 1 Put the following dependent clauses into the gaps.

is sitting at the back

is sitting near Mark

is sitting in the first row

is standing in front of the room

is standing at the door

Subordinator

Mercy, who is standing in front of the room, is a monitor.

IDC

Adjective clause/ relative clause

Maya, who is sitting at the back, is reading her assignment.

IDC

Adjective clause

The woman who/ that is standing at the door teaches English.

IDC

Adjective clause

The boy who/ that is sitting in the first row is Mark.

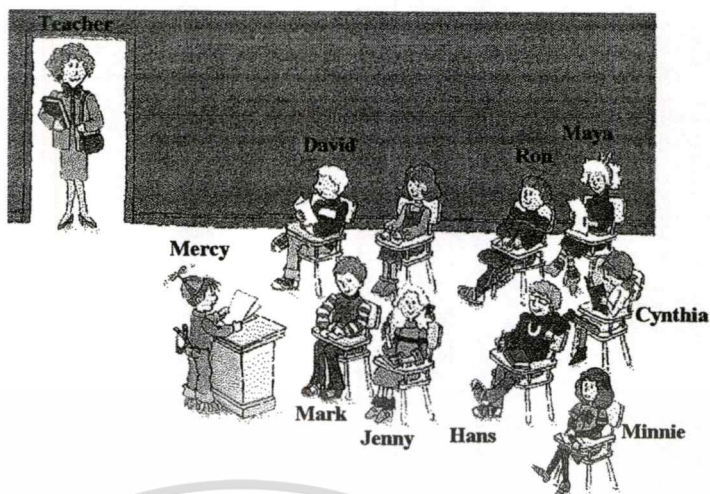
IDC

Adjective clause

Jenny is the girl who/ that is sitting near Mark.

IDC

Adjective clause



Practice 2 Put the following dependent clauses into the gaps.

we met in the library

book is purple

dress is dark green

I told you about

hair is brown

Subordinator
↓
David, whom I told you about, does not agree with my ideas.
IDC Adjective clause

Cynthia, whom we met in the library, is reading a book.
IDC Adjective clause

Ron, whose dress is dark green, is taking note.
IDC Adjective clause

Minnie is Jenny's cousin whose hair is brown.
IDC Adjective clause

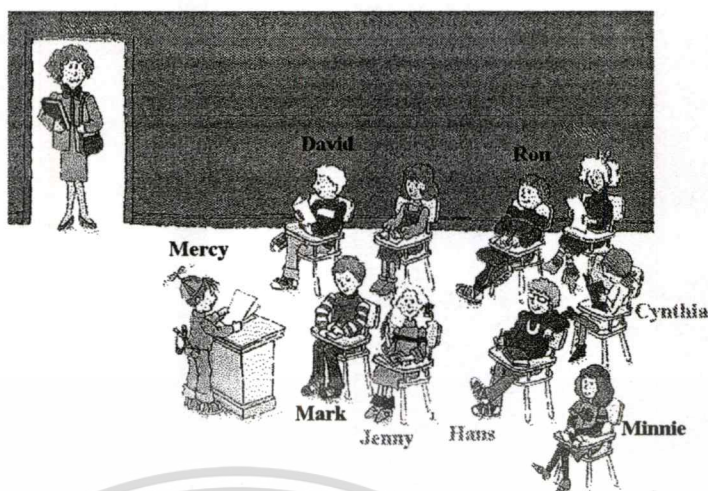
Hans is the boy whose book is purple.
IDC Adjective clause

Grammar

2) Complex sentences with an adjective clauses/ relative clauses

An adjective clause acts like an adjective; that is, it describes a noun or pronoun. The adjective clause begins with a relative pronoun, such as *who*, *whom*, *which*, *whose*, or *that*, or with a relative adverb, such as *where* or *when*. It follows the noun or pronoun it describes.

Use subordinators (*that, who, whom, or whose*) to complete each sentence.



- 1) Maya, is sitting at the back, is reading her assignment. (*who*)

We use **who** to refer to people (not things) in a non-restrictive clause.

- 2) Cynthia, we met in the library, is reading a book. (*whom*)

We use **whom** to refer to people as the object in the adjective clause.

- 3) Hans is the boy book is purple. (*whose*)

We use **whose** to refer to the relationship between a person and something that belongs to that person.

- 4) Jenny is the girl is sitting near Mark. (*who/ that*)

We use **who** or **that** to refer to people in a restrictive clause.

Practice 3 Put the following adjective clauses/ relative clauses into the gaps.

There are many insects in the garden. Let you know them.

which has two pairs of large transparent wings

which have a hard case on theirs back

which can jump very high

which usually have four large brightly colored wings



- Bees are black and yellow insects which can sting.
Adjective clause
- Grasshoppers are long back legs insects which can jump very high.
Adjective clause
- Beetles are insects which have a hard case on theirs back.
Adjective clause
- Butterflies are insects which usually have four large brightly colored wings.
Adjective clause
- A dragonfly is an insect which has two pairs of large transparent wings.
Adjective clause

Practice 4 Put the following clauses into the gaps.

when I was born

where you can get a better exchange rate

Sukhothai is the province

1) 1980 was the year when I was born.
IDC Adjective clause

2) Sukhothai is the province where I grew up.
IDC Adjective clause

3) I don't know any place where you can get a better exchange rate.
IDC Adjective clause

Grammar

2) Complex sentences with an adjective clauses/ relative clauses

An adjective clause acts like an adjective; that is, it describes a noun or pronoun. The adjective clause begins with a relative pronoun, such as *who*, *whom*, *which*, *whose*, or *that*, or with a relative adverb, such as *where* or *when*. It follows the noun or pronoun it describes.

There are two kinds of adjective clauses in the written language:

1. *Adjective clauses without commas (sometimes called defining, restrictive, or identifying).*

They provide essential information about the subject or object. We do not use commas (,) with these clauses:

We know a lot of people who live in London. (what kind of people)

The relative pronoun "that" refers to animals and things, and it informally refers to people.

It is used as a subject or an object in its own clause and it is only used in restrictive clauses.

We use **which** or **that** in an adjective clause when we are talking about animals or things.

Ex. Bees are black and yellow insects **which/ that** can sting.

We use **where** in an adjective clause to talk about a place.

Ex. I don't know any place **where** you can get a better exchange rate.

We use **when** in an adjective clause to talk about a time.

Ex. I still remember the summer **when** we had the big drought.

2. *Adjective clauses with commas (sometimes called non-defining, non-restrictive or non-identifying). They provide additional information which can be omitted. We use commas (,) in these clauses:*

My sister Jamie, who lives in London, is a dentist. (extra information about Jamie)

Grammar Review

Fill *who*, *whom*, *which*, *where*, or *whose* in the blanks.

1. He is the man ... I met on holiday. (whom)
2. He is the man ... car was stolen. (whose)
3. I know the place ... you can get a better exchange rate. (where)
4. She is the woman ... lives next door. (who)
5. 2006 was the year ... my son was born. (when)
6. Her parents went to Prasat Muang Tam ... is a Hindu religious monument. (which)



Practice 1 Study each situation below. Then choose the correct clause to fill in the space.

Whether he has signed the contract (or not) (that) we've sold out of tickets
I don't know

At the theater's counter.

After worked, Frank and his wife went to the Emporium. They went straight to the theater's counter.

Mr. Frank: Two tickets of King Naresuan, please.

Ticket seller: I'm afraid (that) we've sold out of tickets.
 IDC Noun clause

At the toilet

Jack: I have a diarrhea. Who is in the toilet?

Colleague: I don't know who he is.
 IDC Noun clause

At the office

Personnel: I'm afraid she won't come.

Personnel Manager: Don't worry. Whether he has signed the contract (or not) doesn't matter.
Noun clause IDC

Grammar

3) Complex sentences with noun clauses

A noun clause is a dependent clause that functions as a noun. A noun clause is part of an independent clause, where it can be a subject, an object, or a subject complement. It can also follow certain adjectives and nouns. The most common position of a noun clause is after the verb of the main (independent) clause.

There are three kinds of noun clauses as follows:

1. **that clauses**, which begin with the word **that**.
2. **if/ whether clauses**, which begin with the words **whether** or **if**.
3. **question clauses**, which begin with a question word, such as **who**, **what**, **where**, **when**, or **how**.

Look at each noun clause below. Then choose the correct clause to fill in the space.

who she is

whether he has signed the contract (or not)

(that) we've sold out of tickets

1) **That clauses** are formed from statements, and they are introduced by the subordinator *that*.

'*that*' can be omitted.

Ex. I'm afraid (that) we've sold out of tickets.

2) **If/ Whether clauses** are formed from yes/ no questions. They are introduced by the subordinator *if* or *whether*. *Whether* is more formal than *if*. *Or not* may be added. The word order of the *if/ whether* clauses is formed as a declarative sentence. The clauses also do not contain *do*, *does*, or *did* because they are not questions.

Ex. Whether he has signed the contract (or not) doesn't matter.

I will inform whether/ if he has signed the contract (or not).

3) **Question clauses** are formed from *wh-* questions; *wh-* words are the subordinators: *who*, *when*, *what*, etc. The word order of the *if/ whether* clauses is formed as a declarative sentence.

Ex. I don't know who she is.

S/ Subordinate

The question is when he did it.

I wonder what made him do it.

Grammar Review

Choose the correct clause types of noun clauses.

a) *That clauses*

b) *Question clauses*

c) *If/ Whether clauses*

b 1. We should ask when the bus arrives.

a 2. I am sure that the address is correct.

c 3. John asked if the test was hard.

Grammar Review

Choose the correct clause types of clauses.

a) Adverb clauses

b) Adjective clauses

c) Noun clauses

- c 1. He told me **that the match had been cancelled.**
- b 2. Holiday resorts **which are very crowded** are not very pleasant.
- a 3. I bought this shirt **because it was cheap.**
- a 4. My stomach hurts **when I eat something.**
- c 5. I don't know **who he is.**
- b 6. Jenny is the girl **who is sitting near Mark.**
- c 7. **Whether he has signed the contract or not** doesn't matter.
- a 8. Most people shop **where they get the lowest prices.**
- b 9. Hans is the boy **whose book is purple.**
- a 10. **If you work hard,** you will get a promotion.
- c 11. I'm afraid **that we've sold out of tickets.**
- a 12. They wear dark glasses **so that no one can recognize them.**
- b 13. 1980 was the year **when I was born.**
- c 14. The question is **why she didn't come.**
- b 15. The woman **that is standing at the door** teaches English.
- b 16. I know the place **where you can get a better exchange rate.**

Grammar

A compound-complex sentence is a sentence that consists of two independent clauses and one (or more) dependent clauses.

Put IDC or DC under the blocks.

1. King Naresuan is the movie which I like very much, and I will buy a DVD.
IDC DC IDC
2. Nancy will engage to Tim who is my brother, and I will join their ceremony.
IDC DC IDC
3. I'm looking for a car which can carry a lot of people, so I'm interested in a van.
IDC DC IDC
4. I will buy a laptop when I go to Pantip Plaza, and then I will buy a printer.
IDC DC IDC
5. I will buy a present for Nania, but I don't know what she wants.
IDC IDC DC

The seal of King Mongkut's Institute of Technology Ladkrabang is a circular emblem. It features a central five-tiered umbrella (parasol) with a sunburst at the top. Flanking the central umbrella are two smaller, three-tiered umbrellas. The entire emblem is surrounded by a decorative border. The text "King Mongkut's Institute of Technology Ladkrabang" is inscribed around the perimeter of the seal.

Appendix B:

The Index of the Item-Objective Congruence (IOC) Form of Sub-Tests

The Index of the Item-Objective Congruence (IOC) Form
Computer-assisted Language Learning on English Sentence Structures

Sub-Tests

Instruction for filling out evaluation: Please tick (/) in the blank where it is most relevant to your opinion.

Criteria:

- +1 means the question is congruent with the objectives
- 0 means the question is uncertain to be congruent with the objectives
- 1 means the question is not congruent with the objectives

Unit 1 On Holiday

Objectives

- 1) Students will be able to form seven clause types correctly. (Item 1-7)**
- 2) Students will be able to correctly identify each element of the seven clause types. (Item 8-15)**

Items	Score			Remarks
	+1	0	-1	
1) Students will be able to form seven clause types correctly. 1. Which sentence has the SV pattern? a) He played the piano. b) They went to Siam Ocean World. c) I visited my parents in Bangkok. d) He swam.				
2. Which sentence has the SVA pattern? a) She slept. b) She went shopping. c) John had a party with his friends. d) Sonic went to the wedding studio.				

Items	Score			Remarks
	+1	0	-1	
3. Which sentence has the SVO pattern? a) We will visit the Grand Canyon on our trip. b) They will go for a picnic. c) She will climb a cliff. d) Riddick will dive into the swimming pool.				
4. Which sentence has the SVC pattern? a) Vanda is a secretary. b) She must work on holiday. c) She is driving a car. d) She parked her car in the car park.				
5. Which sentence has the SVA pattern? a) She played tennis. b) She was dancing. c) He rode an elephant at Surin. d) He went to the museum.				
6. Which sentence has the SVOA pattern? a) Today is Nadia's birthday. b) She stays home. c) Thomas gives her a wristband. d) She put the wristband in her pocket.				
7. Which sentence has the SVOO pattern? a) They played football. b) Rita gave Taylor a pot of sunflower. c) He planted tulip in his garden. d) They went to Yala.				

Items	Score			Remarks
	+1	0	-1	
2) Students will be able to correctly identify each element of the seven clause types. 8. Identify the clause type in the block. <u>She put the bottle of olive oil on the table.</u> a) S V O A b) S V O C c) S V O O d) S V O				
9. Identify the clause type in the block. <u>I went to Ayutthaya.</u> a) S V A b) S V C c) S V O d) S V				
10. Identify the clause type in the block. <u>Rainbow gives Flora balloons.</u> a) S V O A b) S V O C c) S V O O d) S V				
11. Identify the clause type in the block. <u>Nathan imagines his fiancée beautiful.</u> a) S V O A b) S V O C c) S V O O d) S V C				

Items	Score			Marks
	+1	0	-1	
12. Identify the clause type of the following sentence. ‘Nena looks tired.’ a) SV b) SVO c) SVC d) SVA				
13. Identify the clause type of the following sentence. ‘He will get a surprise.’ a) SV b) SVO c) SVC d) SVA				
14. Identify the clause type of the following sentence. ‘Andrea laughed.’ a) SV b) SVO c) SVC d) SVA				
15. Identify the clause type of the following sentence. ‘Lala sent Lulu postcards.’ a) SVO b) SVOO c) SVOC d) SVOA				

Unit 2 My Neighborhoods

Objectives

- 1) Students will be able to describe lifestyles of neighborhoods with the use of compound sentences. (Item 1-5)
- 2) Students will be able to form compound sentences with coordinating conjunctions. (Item 6-10)
- 3) Students will be able to form compound sentences with conjunctive adverbs. (Item 11-15)
- 4) Students will be able to form compound sentences with semicolons. (Item 16-18)

Items	Score			Remarks
	+1	0	-1	
1) Students will be able to describe lifestyles of neighborhoods with the use of compound sentences. 1. Kavin worked hard. He became an architect. Two sentences can be joined as _____. a) Kavin worked hard, and he became an architect. b) Kavin worked hard; moreover, he became an architect. c) Kavin worked hard; he became an architect. d) All above				
2. Ron was born in France. He speaks French. Two sentences can be joined as _____. a) Ron was born in France, but he speaks French. b) Ron was born in France; otherwise, he speaks French. c) Ron was born in France, so he speaks French. d) Ron was born in France; however, he speaks French.				

Items	Score			Remarks
	+1	0	-1	
3. Vince is an idiot. His mother takes care of him. Two sentences can be joined as _____. a) Vince is an idiot, or his mother takes care of him. b) Vince is an idiot; otherwise, his mother takes care of him. c) Vince is an idiot, for his mother takes care of him. d) Vince is an idiot; however, his mother takes care of him.				
4. Darin is diligent. She has good grades. Two sentences can be joined as _____. a) Darin is diligent, for she has good grades. b) Darin is diligent; thus, she has good grades. c) Darin is diligent, but she has good grades. d) Darin is diligent; in contrast, she has good grades				
5. Peter did not drink alcohol. He did not smoke. Two sentences can be joined as _____. a) Peter did not drink alcohol, for he did not smoke. b) Peter did not drink alcohol, nor did he smoke. c) Peter did not drink alcohol; for instance, he did not smoke. d) Peter did not drink alcohol; therefore, he did not smoke.				
2) Students will be able to form compound sentences with coordinating conjunctions. Choose the appropriate coordinating conjunctions to complete sentences below. 6. Maria is Russian, her husband is American. a) for b) and c) nor d) but				

Items	Score			Remarks
	+1	0	-1	
7. George puts a puppy in a basket, Tiara looks after it. a) nor b) and c) for d) so				
8. Dave could not remember the telephone number of Sonia, he asked her friend. a) but b) or c) yet d) so				
9. I'll see Nick this afternoon, I'll call him tomorrow. a) so b) or c) nor d) but				
10. Sandy did not address Levy, she forgot his name. a) for b) yet c) nor d) but				
3) Students will be able to form compound sentences with conjunctive adverbs. Choose the appropriate conjunctive adverbs to complete the sentence below. 11. Aniston is beautiful;, she is kind. a) therefore b) moreover c) still d) in contrast				
12. Cloth prices in Platinum Mall are low;, cloth prices in Siam Paragon are high. a) thus b) besides c) otherwise d) on the other hand				

Items	Score			Remarks
	+1	0	-1	
13. His sky-train ticket had a problem;, he could not pass the gate. a) for example b) as a result c) nonetheless d) in contrast				
14. The sky looks clear;, you should take an umbrella. a) however b) in addition c) otherwise d) hence				
15. Students must take final exams;, they will receive a grade of Incomplete. a) for instance b) otherwise c) consequently d) furthermore				
4) Students will be able to form compound sentences with semicolons. 16. Choose the correct sentence. a) Minnie was hungry, so she didn't like pizza. b) Minnie was happy, but she didn't join the party. c) Minnie was sad; she didn't eat food. d) Minnie must take medicine after meal; her mother has gone to Hong Kong.				
17. Choose the correct sentence. a) Fern read books in her room; she went to the library. b) Henry usually drives to school; therefore, she takes a taxi. c) Jack wore Kelly's jean, for Jack's shirt is beautiful. d) Sherry shouted for help; nobody heard her.				

Items	Score			Remarks
	+1	0	-1	
18. Choose the correct sentence. a) Murphy is sleepy; the steak is rare. b) Paradon is a tennis player; Natalie loves Thailand. c) Pearl understands math; she has studied it for years. d) Rain is my favorite singer; I do my work.				



Unit 3 Things around Us

Objectives

- 1) Students will be able to form complex sentences correctly. (Item 1-5)
- 2) Students will be able to form adverb clauses with the use of correct subordinators. (Item 6-10)
- 3) Students will be able to form adjective clauses with the use of correct relative pronouns. (Item 11-15)
- 4) Students will be able to form noun clauses with the use of correct subordinators. (Item 16-20)

Items	Score			Remarks
	+1	0	-1	
1) Students will be able to form complex sentences correctly. Choose the correct answer 1. Which of the following sentences is a complex sentence? a) Smith put his money on the table. b) Jane lifts weight, so her arms are firm. c) Erin is the woman who is sitting near the window. d) Jasmine is standing near Randy.				
2. Mandy was so secretive. We knew nothing about her. Two sentences can be joined as _____. a) We knew nothing about Mandy although she was so secretive. b) We knew nothing about Mandy because she was so secretive. c) We knew nothing about Mandy unless she was so secretive. d) We knew nothing about Mandy so that she was so secretive.				
3. Which of the following sentences is a complex sentence? a) Bob shows Ben his new necktie. b) Tim and Mandy are classmates, and he is also her cousin. c) If you study hard, you will get a good grade. d) William bought a new car.				

Items	Score			Remarks
	+1	0	-1	
4. Mr. Pradya said, "I have a record of heart disease". Two clauses can be joined as _____. a) Mr. Pradya said if he had a record of heart disease. b) Mr. Pradya said what he had a record of heart disease. c) Mr. Pradya said that he had a record of heart disease. d) Mr. Pradya said who he had a record of heart disease.				
5. Which of the following sentences is a complex sentence? a) He is stupid; furthermore, he is lazy. b) Anna had a stomachache; hence, she stayed home. c) Nancy picked a book which she liked. d) May is very lovely, but her sisters are ugly.				
2) <i>Students will be able to form adverb clauses with the use of correct subordinators.</i> 6. The club is for members only. You can't get into the club you're a member. a) since b) although c) unless d) while				
7. They are very kind to me. They treat me I were their own son. a) where b) so that c) until d) as if				
8. A robot cannot think creatively, a human worker can. a) as far as b) as often as c) whereas d) as soon as				

Items	Score			Remarks
	+1	0	-1	
9. he had studied all night, he failed the test. a) Because b) Although c) So quickly d) So that				
10. it rains tomorrow, we will not go to the beach. a) Wherever b) Because c) If d) Before				
3) <i>Students will be able to form adjective clauses with the use of correct relative pronouns.</i> 11. 7:00 p.m. was the time, he arrived a) who b) which c) when d) whose				
12. The woman daughter is sick does not come to the office. a) who b) which c) what d) whose				
13. My brother Gatsby, hates fishing, will stay home. a) who b) whom c) that d) which				
14. I don't like stories have unhappy endings. a) when b) whom c) which d) where				
15. We visited the town I was born. a) when b) whom c) whose d) where				

Items	Score			Remarks
	+1	0	-1	
4) Students will be able to form noun clauses with the use of correct subordinators. 16. The problem is robbed my mobile phone. a) that b) when c) who d) if				
17. I'm sure the address is correct. a) where b) that c) if d) what				
18. Mariah wonders Brad has left. a) how b) whether c) what d) when				
19. Sarah doesn't know Paul will come back. She's been waiting here for two hours. a) how b) where c) what d) when				
20. They talked about they had seen. a) how b) that c) whether d) what				

Unit 4 My Notebook

Objective

Students will be able to form compound-complex sentences to describe what has been occurred.

Items	Score			Remarks
	+1	0	-1	
1. Which of the following sentences is a compound-complex sentence? a) Helen went to the movies. b) Peter lost the laptop which he borrowed from Miki, so he couldn't face with her again. c) Matthew whose hair is dark brown is my uncle. d) Judy was sick; however, she went to the office.				
2. Which of the following sentences is a compound-complex sentence? a) Jonathan plays tennis everyday. b) Mrs. Schuster teaches English to me. c) When the power line snapped, Jack was listening to the stereo, and Linda was sleeping in bed. d) Natalie realized she had made a dreadful mistake.				
3. Which of the following sentences is a compound-complex sentence? a) After I returned to school following a long illness, the math teacher gave me make-up work, but the history teacher made me drop her course. b) My grandma would have fallen, but Levy caught her. c) I must clean my car every Sunday, or it will be rusty. d) Kaew is an honest girl, though she is poor.				

Items	Score			Remarks
	+1	0	-1	
4. Which of the following sentences is a compound-complex sentence? a) The lambs were gamboling in the field. b) I don't know why Marsha didn't go to the office, however she will tell me. c) Although I was tired, I couldn't sleep. d) If you worked harder, you might pass your exams.				
5. Which of the following sentences is a compound-complex sentence? a) The alarm was raised as soon as the fire was discovered. b) When I was young, the dog bit me, so my dad kicked it. c) Whatever Lee says, we shall not believe him. d) Pinky doesn't like a colorful dress, nor does she want it.				
6. Which of the following sentences is a compound-complex sentence? a) Steve works hard because he will marry Samantha. b) I keep my money where my wife will not find it. c) Rose rushed to the store, but she had forgotten her wallet when she had parked the car. d) Jack left before he had finished his breakfast.				

Items	Score			Remarks
	+1	0	-1	
7. Which of the following sentences is a compound-complex sentence? a) James couldn't decide when he should leave. b) Frank looks as though he had seen a ghost. c) Jerry loves his music, but his neighbors hate it because he plays it loudly. d) Peter was two years old when his mother died.				
8. Which of the following sentences is a compound-complex sentence? a) Helen works in a farm; besides, she takes care of her baby. b) Today is a holiday, so we go to Pattaya. c) Leo is waiting for his wife. d) When the bus stopped, Tao went upstairs, but Nat went downstairs.				
9. Which of the following sentences is a compound-complex sentence? a) They are so lazy; therefore, they do nothing. b) Betty's mother told me that she has worked hard since her husband died. c) Eric speaks as if he knows everything. d) Because Vick was ill, he did not come to the party.				

Appendix C:
The Index of the Item-Objective Congruence (IOC) Form of Post-Test



The Index of the Item-Objective Congruence (IOC) Form
Computer-Assisted Language Learning on English Sentence Structures
Post-Test

Instruction for filling out evaluation: Please tick (/) in the blank where it is most relevant to your opinion.

Criteria:

- +1 means the question is congruent with the objectives
- 0 means the question is uncertain to be congruent with the objectives
- 1 means the question is not congruent with the objectives

Unit 1 On Holiday

Objectives

- 1) Students will be able to form seven clause types correctly. (Item 1-3)*
- 2) Students will be able to correctly identify each element of the seven clause types. (Item 4-5)*

Items	Score			Remarks
	+1	0	-1	
<i>1) Students will be able to form seven clause types correctly.</i> 1. Which sentence has the SVO pattern? a) Frederick was singing karaoke in a living room. b) Boy rode banana boat. c) Harry had dinner with his family. d) Her friends gave her a spa treatment voucher.				
2. Which sentence has the SVOC pattern? a) Mark swam. b) We considered Phuket a wonderful trip. c) Lavoie painted a picture. d) Kuma went to the beach.				

Items	Score			Remarks
	+1	0	-1	
3. Which sentence has the SVOO pattern? a) Jimmy bought a tour package to his girlfriend. b) Ralph gave his girlfriend a surprised dinner. c) Todd stayed home. d) Larry went to a party.				
2) <i>Students will be able to correctly identify each element of the seven clause types</i> 4. Identify the clause type in the block. Louise got through a window. a) S V A b) S V C c) S V O d) S V				
5. Identify the clause type in the block. Britney brought her son to the zoo. a) S V O A b) S V O C c) S V O O d) S V C				

Unit 2 My Neighborhoods

Objectives

- 1) Students will be able to describe lifestyles of neighborhoods with the use of compound sentences. (Item 6-8)
- 2) Students will be able to form compound sentences with coordinating conjunctions. (Item 9-11)
- 3) Students will be able to form compound sentences with conjunctive adverbs. (Item 12-14)
- 4) Students will be able to form compound sentences with semicolons. (Item 15-19)

Items	Score			Remarks
	+1	0	-1	
1) Students will be able to describe lifestyles of neighborhoods with the use of compound sentences. 6. Alice may go to the concert. She may attend a lecture. Two sentences can be joined as _____. a) Alice may go to the concert; as a result, she may attend a lecture. b) Alice may go to the concert; on the other hand, she may attend a lecture. c) Alice may go to the concert, so she may attend a lecture. d) Alice may go to the concert, for she may attend a lecture.				
7. Tony likes Western food. Tim likes Japanese food. Two sentences can be joined as _____. a) Tony likes Western food, but Tim likes Japanese food. b) Tony likes Western food; however, Tim likes Japanese food. c) Tony likes Western food; Tim likes Japanese food. d) All above				

Items	Score			Remarks
	+1	0	-1	
8. Which of the following sentences is incorrect? a) Garcia went to a bookstore, and she bought cooking books. b) Carmen practices her English everyday; otherwise, she will forget it. c) Jimmy is driving Jena to the office; Jena is sleeping in her bedroom. d) Jasmine gets up early, for she goes jogging.				
2) <i>Students will be able to form compound sentences with coordinating conjunctions.</i> Choose the appropriate coordinating conjunctions to complete the sentence below. 9) Jenny's grandfather is old, her grandmother has Alzheimer's. a) and b) but c) nor d) or				
10. You leave now, I will call the police. a) and b) or c) so d) yet				
11. Rudolph speaks French, his wife speaks German. a) for b) so c) nor d) but				

Items	Score			Remarks
	+1	0	-1	
3) <i>Students will be able to form compound sentences with conjunctive adverbs.</i> Choose the appropriate conjunctive adverbs to complete the sentence below. 12. Nana had a headache;, she took a medicine. a) nevertheless b) thus c) on the other hand d) for example				
13. "Have you written to Tommy yet?" "No, I don't know his address;, I would have written to him." a) furthermore b) as a result c) otherwise d) in contrast				
14. Helen didn't like James;, she went to his party. a) however b) moreover c) therefore d) for instance				
4) <i>Students will be able to form compound sentences with semicolons.</i> 15. Choose the correct sentence. a) The flower has a delicate bloom; the dog barks. b) Thailand is an agricultural country; Dave is pouring water on a plant. c) Pop missed the bus; he can speak English very well. d) Mathew likes dogs; they are loyal.				

Items	Score			Remarks
	+1	0	-1	
16. Choose the correct sentence. a) Durian is a delicious fruit; Korean artist won the best singer award of 2006. b) Willy has just arrived Thailand; he is selfish. c) A robber was caught; he was punished. d) Natty has many friends; her mother died.				
17. Choose the correct sentence. a) Richard forgot the key; he could not get into the house. b) The door wasn't locked; it was so beautiful. c) My mom likes traveling; she put sugar in my coffee. d) Joey jumped onto the stage; corn ripens quickly in hot water.				
18. Choose the incorrect sentence. a) Alicia didn't have breakfast; she was hungry. b) Luna hadn't brought her umbrella; she got very wet. c) You can't come; otherwise, you can meet us there. d) David woke up late; he missed the bus.				
19. Choose the incorrect sentence. a) Front drives a red Porsche; her husband drives a black Rolls Royce. b) The telephone rang; Michael picked up it. c) Wilson felt bored; he went to the sport club. d) Greg drove Vanessa to the airport; Vanessa went there by taxi.				

Unit 3 Things around Us

Objectives

- 1) Students will be able to form complex sentences correctly. (Item 20-23)
- 2) Students will be able to form adverb clauses with the use of correct subordinators. (Item 24-27)
- 3) Students will be able to form adjective clauses with the use of correct relative pronouns. (Item 28-30)
- 4) Students will be able to form noun clauses with the use of correct subordinators. (Item 31-33)

Items	Score			Remarks
	+1	0	-1	
1) Students will be able to form complex sentences correctly. Choose the correct answer 20., she can't get into the discotheque. a) Whether Jamie is too young b) Because Jamie is too young c) Jamie who is too young d) If Jamie is too young				
21. Laurent,, is my brother. a) whether he gives a speech b) after he gave a speech c) who is giving a speech d) All above				
22. I'm afraid a) that Natalie won't go to the party. b) if Natalie won't go to the party. c) so that Natalie won't go to the party d) why won't go to the party.				

Items	Score			Remarks
	+1	0	-1	
23. Two men resemble images from a security camera. They are released by a police. Two sentences can be joined as _____. a) Two men who resemble images from a security camera are released by a police. b) Two men whom resemble images from a security camera are released by a police. c) Two men which resemble images from a security camera are released by a police. d) Two men resemble images from a security camera are released by a police.				
<i>2) Students will be able to form adverb clauses with the use of correct subordinators.</i> 24. She acts she were a supermodel. a) as if b) if c) because d) so that				
25. Bill does not eat meat he is a vegetarian. a) before b) although c) so that d) because				
26. She will sign the contract it is satisfactory. a) as often as b) if c) so soon as d) as far as				
27. Angela could go she wanted to in the world. a) so quickly b) wherever c) although d) whenever				

Items	Score			Remarks
	+1	0	-1	
3) Students will be able to form adjective clauses with the use of correct relative pronouns. 28. Clark Kent, is changing his dress in the telephone box, is a superman. a) who b) whom c) which d) that				
29. A spider is a small creature makes webs. a) who b) whose c) which d) where				
30. I know the place you can get a better exchange rate. a) who b) when c) what d) where				
4) Students will be able to form noun clauses with the use of correct subordinators. 31. it rains or snows, we shall go to the party. a) How b) Whether c) What d) When				
32. Jack doesn't know Ken bought his new suit. a) where b) if c) who d) when				
33. I heard Angie dropped out of school. a) that b) why c) who d) when				

Unit 4 My notebook

Objective

Students will be able to form compound-complex sentences to describe what has been occurred. (Item 34-38)

Items	Score			Remarks
	+1	0	-1	
34. Which of the following sentences is a compound-complex sentence? a) My daughter won't talk to the person that she doesn't know. b) I don't know what Gloria wants, but I can guess. c) Sonya goes swimming everyday. d) Sonia picks a wallet up, and she will return it to the owner.				
35. Which of the following sentences is a compound-complex sentence? a) Lennon couldn't remember Linda's condominium, so he will ask her. b) Lennon asks Linda where her condominium is. c) Lennon couldn't remember where her condominium is, so he asks her. d) Lennon asks Linda about her condominium.				
36. Randy went to the beach, but he hadn't worn a lifebuoy that could save him. This sentence is a a) simple sentence b) compound sentence c) complex sentence d) compound-complex sentence				

Items	Score			Remarks
	+1	0	-1	
37. Although Pohnu got a new job, he won't leave this city, and his family won't move away. This sentence is a a) simple sentence b) compound sentence c) complex sentence d) compound-complex sentence				
38. Which of the following sentences is not a compound-complex sentence? a) Even though Brenda was tired, she went to the market, and I drove a car for her. b) Laura planted the flower seed which I gave to her. c) While Roger cut the grass, I trimmed the shrub; the children swept the clippings into plastic bags. d) Alex broke his arm because he fell when he skated.				

The seal of King Mongkut's Institute of Technology Ladkrabang is a circular emblem. It features a central sunburst with rays emanating from a central point. Below the sunburst are three tiered umbrellas (parasols) supported by ornate stands. The entire emblem is surrounded by a circular border containing the text "King Mongkut's Institute of Technology Ladkrabang" in a serif font.

Appendix D: Evaluation Forms (English Version)

- Contents

- Media Production Techniques

Computer-Assisted Language Learning on English Sentence Structures

Instruction for filling out evaluation

Please tick (/) in the blank where it is most relevant to your opinion.

Evaluation	A rating scale				
	The highest	High	Moderate	Low	The lowest
	5	4	3	2	1
1. Contents and Presentation					
1.1 Congruence between the contents and the objectives					
1.2 Content accuracy					
1.3 Accuracy of the content arrangement					
1.4 Cohesion of the contents					
1.5 Clarity of the contents					
1.6 Clarity of the conclusion					
1.7 Encouragement to increase students' comprehension					
1.8 Appropriateness of the content quantity					
2. Illustrations and Language					
2.1 Appropriate utilization of illustrations					
2.2 Language accuracy					
2.3 Congruence between illustrations and descriptions					
3. Practices					
3.1 Appropriateness					
3.2 Clear instruction					
3.3 Congruence between practices and objectives					
4. Sub-tests and Post-test					
4.1 Coverage of the contents					
4.2 Clarity of the questions					
4.3 Assessment ability of the tests					

Further suggestions:

.....

.....

.....

Signature Expert

(.....)

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Computer-Assisted Language Learning on English Sentence Structures

Instruction for filling out evaluation

Please tick (/) in the blank where it is most relevant to your opinion.

Evaluation	A rating scale				
	The highest 5	High 4	Moderate 3	Low 2	The lowest 1
1. Fonts					
1.1 Font sizes					
1.2 Appropriateness of font types					
1.3 Appropriateness of font colors					
2. Illustrations					
2.1 Clear illustrations					
2.2 Appropriateness of illustration ratio on the screen					
2.3 Sizes of illustrations and presentation speed					
2.4 Types of graphic file					
3. Animation					
3.1 Loading speed of animation					
3.2 Appropriateness of sizes and positioning on the screen					
3.3 Types of animation file					
4. Colors					
4.1 Attractiveness of colors					
4.2 Appropriateness of colors					
4.3 Color resolution					
4.4 Distinctiveness of colors used to highlight information					
5. Menus					
5.1 Menus covering all of the contents					
5.2 Appropriateness of menus in each unit					
5.3 Appropriateness of courseware menus					

Evaluation	A rating scale				
	The highest	High	Moderate	Low	The lowest
	5	4	3	2	1
6. Symbols, Graphics, and Buttons					
6.1 Communication					
6.2 Sizes					
6.3 Positioning					
7. Content arrangement					
- Appropriateness of the content arrangement in each page					
8. Time					
8.1 Time appropriateness in each unit					
8.2 Time appropriateness as a whole					

Further suggestions:

Signature Expert

(.....)

...../...../.....

The seal of King Mongkut's Institute of Technology Ladkrabang is a circular emblem. It features a central sunburst with rays emanating from a central point. Below the sunburst are two traditional Thai stupas (chedis) flanking a central decorative element. The entire emblem is surrounded by a circular border containing the text "King Mongkut's Institute of Technology Ladkrabang" in English and Thai script.

Appendix E: Evaluation Forms (Thai Version)

- Contents

- Media Production Techniques

บทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษ เรื่อง โครงสร้างประโยคภาษาอังกฤษ

คำชี้แจงการตอบแบบประเมินผล

กรุณาขีดเครื่องหมายถูก (/) ในช่อง ให้ตรงกับความคิดเห็นของท่าน ตามที่ท่านเห็นว่ามีความเหมาะสมในแต่ละข้อ

รายการประเมิน	ระดับความคิดเห็น				
	ดีมากที่สุด	ดี	ปานกลาง	น้อย	น้อยที่สุด
	5	4	3	2	1
1. เนื้อหาและการนำเสนอ					
1.1 ความสอดคล้องของเนื้อหากับวัตถุประสงค์					
1.2 ความถูกต้องของเนื้อหา					
1.3 ความถูกต้องในการลำดับเนื้อหาตามขั้นตอน					
1.4 ความสอดคล้องของเนื้อหาแต่ละตอน					
1.5 ความชัดเจนในการอธิบายเนื้อหา					
1.6 ความชัดเจนในการสรุปเนื้อหา					
1.7 การส่งเสริมให้ผู้เรียนมีความเข้าใจในเนื้อหา					
1.8 ความเหมาะสมของปริมาณเนื้อหา					
2. ภาพและภาษา					
2.1 ความถูกต้องของภาพที่นำมาใช้					
2.2 ความถูกต้องของภาษาที่ใช้					
2.3 ความสอดคล้องของภาพกับคำบรรยาย					
3. แบบฝึกหัด					
3.1 ความเหมาะสมของแบบฝึกหัดที่ใช้					
3.2 ความชัดเจนของคำสั่งที่ใช้					
3.3 ความสอดคล้องของแบบฝึกหัดกับวัตถุประสงค์					
4. แบบทดสอบระหว่างเรียนและหลังเรียน					
4.1 ความครอบคลุมของเนื้อหาในแบบทดสอบ					
4.2 ความชัดเจนของข้อคำถาม					
4.3 ความสามารถในการวัดความรู้ความเข้าใจของแบบทดสอบ					

ข้อเสนอแนะ (โปรดระบุ)

คำชี้แจงการตอบแบบประเมินผล

กรุณาคัดเครื่องหมายถูก (/) ในช่อง ให้ตรงกับความคิดเห็นของท่าน ตามที่ท่านเห็นว่ามีความเหมาะสมในแต่ละข้อ

รายการประเมิน	ระดับความคิดเห็น				
	ดีมากที่สุด	ดี	ปานกลาง	น้อย	น้อยที่สุด
	5	4	3	2	1
1. ตัวอักษร					
1.1 ความเหมาะสมของขนาดตัวอักษร					
1.2 ความเหมาะสมของรูปแบบตัวอักษร					
1.3 ความเหมาะสมของสีตัวอักษร					
2. ภาพ					
2.1 ภาพสื่อความหมายชัดเจน					
2.2 ความเหมาะสมของสัดส่วนภาพบนหน้าจอ					
2.3 ขนาดของภาพ และความเร็วในการแสดงผลภาพ					
2.4 ชนิดของไฟล์ภาพ					
3. ภาพเคลื่อนไหว					
3.1 ความเร็วในการแสดงผลภาพ					
3.2 ความเหมาะสมของขนาด และตำแหน่งภาพบนจอ					
3.3 ชนิดของไฟล์ภาพเคลื่อนไหว					
4. สี					
4.1 สีที่เลือกใช้ดึงดูดความสนใจ					
4.2 สีที่เลือกใช้มีความเหมาะสม					
4.3 ความละเอียดของสี					
4.4 ความเด่นของการใช้สีในส่วนที่ต้องการเน้น					
5. เมนูตัวเลือก					
5.1 การแบ่งข้อมูลครบตามเนื้อหา					
5.2 ความเหมาะสมของเมนูตัวเลือกในการนำเสนอบทเรียนแต่ละบท					
5.3 ความเหมาะสมของเมนูตัวเลือกกับเนื้อหาโดยรวม					

เรื่องที่จะประเมิน	ระดับความคิดเห็น ¹²⁴				
	ดีมากที่สุด	ดี	ปานกลาง	น้อย	น้อยที่สุด
	5	4	3	2	1
6. สัญลักษณ์ รูป และปุ่ม					
6.1 การสื่อความหมาย					
6.2 ขนาด					
6.3 การจัดวางตำแหน่ง					
7. การจัดวางเนื้อหา					
- ความเหมาะสมของรูปแบบการจัดวางเนื้อหาในแต่ละหน้า					
8. เวลา					
8.1 ความเหมาะสมของเวลาในการนำเสนอบทเรียนแต่ละบท					
8.2 ความเหมาะสมของเวลากับเนื้อหาโดยรวม					

ข้อเสนอแนะ (โปรดระบุ)

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ลงชื่อ ผู้ประเมิน

(.....)

...../...../.....

Appendix F: Official Letters





บันทึกข้อความ

สวนราชการ คณะครุศาสตร์อุตสาหกรรม หน่วยบัณฑิตศึกษา งานทะเบียน โทร.3692

ที่ ศธ 0524.04 /

1326

วันที่ ๔ เมษายน 2550

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิตรวจสอบและประเมินสื่อการสอนด้านเนื้อหาเพื่อการวิจัย

เรียน ผศ.พรทิพย์ ไวแสง

ด้วย นางสาวศนิवार อิ่มสุวรรณ นักศึกษาระดับปริญญาโท หลักสูตรศิลปศาสตรมหาบัณฑิต สาขาวิชาภาษาศาสตร์ประยุกต์ - ภาษาอังกฤษเพื่อวิทยาศาสตร์และเทคโนโลยี สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง กำลังทำสารนิพนธ์ เรื่อง “การพัฒนาบทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษ เรื่อง โครงสร้างประโยคภาษาอังกฤษ” คณะครุศาสตร์อุตสาหกรรม พิจารณาแล้วเห็นว่าท่านเป็นผู้มีความรู้ความสามารถเกี่ยวกับเรื่องดังกล่าวเป็นอย่างดี จึงขอเชิญท่านเป็นผู้ทรงคุณวุฒิตรวจสอบและประเมินสื่อการสอนนี้ว่ามีเนื้อหาถูกต้องและเหมาะสมมากน้อยเพียงใด ซึ่งผลตรวจสอบและประเมินของท่านจะช่วยให้งานวิจัยของ นางสาวศนิवार อิ่มสุวรรณ มีความสมบูรณ์ยิ่งขึ้น พร้อมกันนี้ได้แนบบททดสอบและแบบประเมินสื่อการสอนด้านเนื้อหาเพื่อการวิจัย

จึงเรียนมาเพื่อโปรดพิจารณาและหวังว่าจะได้รับความอนุเคราะห์จากท่านด้วยดีและขอขอบคุณเป็นอย่าง
ขังมา ณ โอกาสนี้ด้วย

(ผู้ช่วยศาสตราจารย์เลิศลักษณ์ กลิ่นหอม)

รองคณบดี กำกับดูแลงานด้านบัณฑิตศึกษา

ปฏิบัติราชการแทนคณบดี



บันทึกข้อความ

สวนราชการ คณะครูศาสตร์อุตสาหกรรม หน่วยบัณฑิตศึกษา งานทะเบียน โทร.3692

ที่ ศธ 0524.04 / 1326 วันที่ ๘ เมษายน 2550

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิตรวจแบบทดสอบและประเมินสื่อการสอนด้านเนื้อหาเพื่อการวิจัย

เรียน อาจารย์ดวงพร จริจิตไพบูลย์

ด้วย นางสาวศนิवार อัมสุวรรณ นักศึกษาระดับปริญญาโท หลักสูตรศิลปศาสตรมหาบัณฑิต สาขาวิชาภาษาศาสตร์ประยุกต์ - ภาษาอังกฤษเพื่อวิทยาศาสตร์และเทคโนโลยี สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง กำลังทำสารนิพนธ์ เรื่อง “การพัฒนาบทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษ เรื่อง โครงสร้างประโยคภาษาอังกฤษ” คณะครูศาสตร์อุตสาหกรรม พิจารณาแล้วเห็นว่าท่านเป็นผู้มีความรู้ความสามารถเกี่ยวกับเรื่องดังกล่าวเป็นอย่างดี จึงขอเชิญท่านเป็นผู้ทรงคุณวุฒิตรวจแบบทดสอบและประเมินสื่อการสอนนี้ว่ามีเนื้อหาถูกต้องและเหมาะสมมากน้อยเพียงใด ซึ่งผลการตรวจและประเมินของท่านจะช่วยให้งานวิจัยของ นางสาวศนิवार อัมสุวรรณ มีความสมบูรณ์ยิ่งขึ้น พร้อมกันนี้ได้แนบบททดสอบและแบบประเมินสื่อการสอนด้านเนื้อหาเพื่อการวิจัย

จึงเรียนมาเพื่อโปรดพิจารณาและหวังว่าจะได้รับความอนุเคราะห์จากท่านด้วยดีและขอขอบคุณเป็นอย่างยิ่งมา ณ โอกาสนี้ด้วย

(ผู้ช่วยศาสตราจารย์เลิศลักษณ์ กลิ่นหอม)

รองคณบดี กำกับดูแลงานด้านบัณฑิตศึกษา

ปฏิบัติราชการแทนคณบดี



ที่ ศธ 0524.04/ 1326

คณะกรรมการ

สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง

ถนนฉลองกรุง เขตลาดกระบัง กรุงเทพฯ 10520

๕ เมษายน 2550

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิตรวจและประเมินสื่อการสอนด้านเทคนิคการผลิตสื่อเพื่อการวิจัย

เรียน คร.รุจโรจน์ แก้วอุไร

สิ่งที่ส่งมาด้วย แบบประเมินสื่อการสอนด้านเทคนิคการผลิตสื่อเพื่อการวิจัย

ด้วย นางสาวศนิवार อัมสุวรรณ นักศึกษาระดับปริญญาโท หลักสูตรศิลปศาสตรมหาบัณฑิต สาขาวิชาภาษาศาสตร์ประยุกต์ - ภาษาอังกฤษเพื่อวิทยาศาสตร์และเทคโนโลยี สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง กำลังทำสารนิพนธ์ เรื่อง “การพัฒนาบทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษ เรื่อง โครงสร้างประโยคภาษาอังกฤษ”

คณะกรรมการฯ พิจารณาแล้วเห็นว่าท่านเป็นผู้มีความรู้ความสามารถเกี่ยวกับเรื่องดังกล่าวเป็นอย่างดี จึงขอเชิญท่านเป็นผู้ทรงคุณวุฒิตรวจและประเมินสื่อการสอนนี้ว่ามีความถูกต้องและเหมาะสมมากน้อยเพียงใด ซึ่งผลการตรวจและประเมินของท่านจะช่วยให้งานวิจัยของ นางสาวศนิवार อัมสุวรรณ มีความสมบูรณ์ยิ่งขึ้น

จึงเรียนมาเพื่อโปรดพิจารณาและหวังว่าจะได้รับความอนุเคราะห์จากท่านด้วยดีและขอขอบคุณเป็นอย่างยิ่งมา ณ โอกาสนี้ด้วย

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์เลิศลักษณ์ กลิ่นหอม)

รองคณบดี กำกับดูแลงานด้านบัณฑิตศึกษา

ปฏิบัติราชการแทนคณบดี

หน่วยบัณฑิตศึกษา

โทร. 02-737-3000 ต่อ 3692

โทรสาร. 02- 326-4325



บันทึกข้อความ

สวนราชการ คณะครุศาสตร์อุตสาหกรรม หน่วยบัณฑิตศึกษา งานทะเบียน โทร.3692

ที่ ศธ 0524.04 / 1326

วันที่ ๒ เมษายน 2550

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิตรวจและประเมินสื่อการสอนด้านเทคนิคการผลิตสื่อเพื่อการวิจัย

เรียน รศ.อรรถพร ฤทธิเฑียร

ด้วย นางสาวศนิवार อัมสุวรรณ นักศึกษาระดับปริญญาโท หลักสูตรศิลปศาสตรมหาบัณฑิต สาขาวิชาภาษาศาสตร์ประยุกต์ - ภาษาอังกฤษเพื่อวิทยาศาสตร์และเทคโนโลยี สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง กำลังทำสารนิพนธ์ เรื่อง “การพัฒนาบทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษ เรื่อง โครงสร้างประโยคภาษาอังกฤษ” คณะครุศาสตร์อุตสาหกรรม พิจารณาแล้วเห็นว่าท่านเป็นผู้มีความรู้ความสามารถเกี่ยวกับเรื่องดังกล่าวเป็นอย่างดี จึงขอเชิญท่านเป็นผู้ทรงคุณวุฒิตรวจและประเมินสื่อการสอนนี้ว่ามีความถูกต้องและเหมาะสมมากน้อยเพียงใด ซึ่งผลการตรวจและประเมินของท่านจะช่วยให้งานวิจัยของนางสาวศนิवार อัมสุวรรณ มีความสมบูรณ์ยิ่งขึ้น พร้อมทั้งได้แนบบทเรียนสื่อการสอนด้านเทคนิคการผลิตสื่อเพื่อการวิจัย

จึงเรียนมาเพื่อโปรดพิจารณาและหวังว่าจะได้รับความอนุเคราะห์จากท่านด้วยดีและขอขอบคุณเป็นอย่าง
ขังมา ณ โอกาสนี้ด้วย

(ผู้ช่วยศาสตราจารย์เลิศลักษณ์ กลิ่นหอม)

รองคณบดี กำกับดูแลงานด้านบัณฑิตศึกษา

ปฏิบัติราชการแทนคณบดี



บันทึกข้อความ

สวนราชการ คณะครุศาสตร์อุตสาหกรรม หน่วยบัณฑิตศึกษา งานทะเบียน โทร.3692

ที่ ศธ 0524.04 / 1326

วันที่ ๔ เมษายน 2550

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิตรวจและประเมินสื่อการสอนด้านเทคนิคการผลิตสื่อเพื่อการวิจัย

เรียน อาจารย์แสงอุทัย มอโท

ด้วย นางสาวศนิवार อัมสุวรรณ นักศึกษาระดับปริญญาโท หลักสูตรศิลปศาสตรมหาบัณฑิต สาขาวิชาภาษาศาสตร์ประยุกต์ - ภาษาอังกฤษเพื่อวิทยาศาสตร์และเทคโนโลยี สถาบันเทคโนโลยีพระจอมเกล้าเจ้าคุณทหารลาดกระบัง กำลังทำสารนิพนธ์ เรื่อง “การพัฒนาบทเรียนคอมพิวเตอร์ช่วยสอนภาษาอังกฤษ เรื่อง โครงสร้างประโยคภาษาอังกฤษ” คณะครุศาสตร์อุตสาหกรรม พิจารณาแล้วเห็นว่าท่านเป็นผู้มีความรู้ความสามารถเกี่ยวกับเรื่องดังกล่าวเป็นอย่างดี จึงขอเชิญท่านเป็นผู้ทรงคุณวุฒิตรวจและประเมินสื่อการสอนนี้ว่ามีความถูกต้องและเหมาะสมมากน้อยเพียงใด ซึ่งผลการตรวจและประเมินของท่านจะช่วยชี้แจงวิสัยของนางสาวศนิवार อัมสุวรรณ มีความสมบูรณ์ยิ่งขึ้น พร้อมทั้งนี้ได้แนบบทเรียนสื่อการสอนด้านเทคนิคการผลิตสื่อเพื่อการวิจัย

จึงเรียนมาเพื่อโปรดพิจารณาและหวังว่าจะได้รับความอนุเคราะห์จากท่านด้วยดีและขอขอบคุณเป็นอย่างยิ่งมา ณ โอกาสนี้ด้วย

(ผู้ช่วยศาสตราจารย์เลิศลักษณ์ กลิ่นหอม)

รองคณบดี กำกับดูแลงานด้านบัณฑิตศึกษา

ปฏิบัติราชการแทนคณบดี

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Work Experience	2004 Banquet Coordinator Pacific City Club Limited, Bangkok