A Development of a Multimedia e-Book: English Sentence Writing for the Students at Rajamangala University of Technology Rattanakosin

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Abstract

The purpose of this study was to develop a Multimedia e-book: English Sentence Writing for the Students at Rajamangala University of Technology Rattanakosin through an experimental research by using the one-group pretest-posttest design. The purposive sampled group consisted of 40 students in Business English major, who studied with the researcher. The research instruments included a Multimedia e-book: English Sentence Writing for the Students at Rajamangala University of Technology Rattanakosin and a questionnaire on students' satisfaction with the developed Multimedia e-Book. The results from the study were as follows: (1) the value of the effectiveness of the developed Multimedia e-Book was 77.94 /79.34, which corresponded to the set criteria of the value of the effectiveness of 75/75, (2) the posttest score was significantly higher than the pretest score at the significant level of .05, and (3) the sampled group expressed their high level of satisfaction with the developed Multimedia e-Book.

Keywords: Multimedia e-Book / English sentence writing

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บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อพัฒนาหนังสืออิเล็กทรอนิกส์ มัลติมีเดีย เรื่อง การเขียนประโยคภาษาอังกฤษสำหรับนักศึกษามหาวิทยาลัยเทคโนโลยีราชมงคล รัตนโกสินทร์ ผ่านการวิจัยเชิงทดลองและการใช้แบบทดสอบก่อนหลัง กลุ่มทดลอง ประกอบด้วยนักศึกษาวิชาเอกภาษาอังกฤษธุรกิจ จำนวน 40 คน เครื่องมือที่ใช้ในการ วิจัย ได้แก่ หนังสืออิเล็กทรอนิกส์ มัลติมีเดีย และแบบสอบถามความพึงพอใจ ผลการวิจัยพบว่า (1) หนังสือมีค่าประสิทธิผล 77.94 / 79.34 ซึ่งสอดคล้องกับค่าความ เชื่อมั่น 75 / 75 (2) คะแนนทดสอบหลังจากใช้หนังสือ เพิ่มขึ้นอย่างมีนัยสำคัญ และ (3) กลุ่มตัวอย่างมีความพอใจหนังสือเล่มนี้อยู่ในระดับสูง

คำสำคัญ: หนังสืออิเล็กทรอนิกส์ มัลติมีเดีย / การเขียนประโยคภาษาอังกฤษ

Introduction

In 2015, Thailand will enter the ASEAN Economic Community (AEC) (Thai-AEC.com, 2013). At that time, all 10 countries in the ASEAN Community will be united as a single market and production base, where goods, services, investments, skilled labor and capital will freely flow among the member countries. Anyhow, as stipulated in the ASEAN Charter (ASEAN Secretariat, 2008), English will be used as the working language of ASEAN. Thus, communication in all aspects in business among all concerned in the AEC should be facilitated through the use of English. Hence, university graduates should be equipped with good English ability so as to have a better job prospect in such an era of strong competitiveness and free flows of workforce among the members of the ASEAN Community. It can be foreseen that good English proficiency will be a requirement for job applicants at all business

sectors at both the national level and the international level. Moreover, it can be said that producing graduates with good English ability apart from cultivating them to have professional practical capabilities can not only enhance the country's competitiveness, but also stimulate the country's economic development as a whole.

In the aspect of the use of English for business communication, apart from listening, speaking and reading skills, writing skills are also widely and commonly used especially through e-mail, memorandum and letters. As for formal communication in business, it is common to use written work for it is easy to refer to.

Considering written work for communication, we can see that any piece of written work of whatever length consists of several sentences which are grammatically and coherently connected. Thus, it can be said that all written work begins from sentence level writing. Sentence by sentence can be coherently connected to make a paragraph, and then paragraphs can be joined in an appropriate sequence to make a complete piece of written work for use as aimed. Bearing in mind about the importance of sentence level writing, we should develop and enhance our students' basic knowledge and ability in writing English sentences, which will be a fundamental base for their English writing development later. Also, this basic knowledge in English sentence writing can be transferred to their basic knowledge in developing their listening, speaking and reading skills.

From my own experience as an English teacher for more than 20 years and from reading related documents and research, I can point out that, in general, Thai students at university level still lack basic knowledge and

fundamental ability in English writing. Anyhow, it can be said that English writing is considered difficult for Thai students as they have to transmit their thoughts into appropriate and correct word choices and structures of English, whereas there are a lot of differences between Thai and English. What we always see is that students' written work contains Thai structure, which can often convey misunderstanding to the reader, or cannot convey meaningful messages to the reader. As commonly known, learners of the second language or a foreign language always make such mistakes, and these kinds of mistake are called "Common Mistakes". From the point of view of some educators dealing with the principles of error analysis, such mistakes should be categorized and analyzed in order so that the teacher can make a teaching plan beforehand to correct or prevent such mistakes from the learners (Myles, 2008).

However, students' learning pace is individually different. Weak or slow learners of English may need frequent repetitions of lessons and more learning time. Anyhow, nowadays due to the modern technology, computer programs or softwares can be designed for students' learning of various contents including English according to their learning pace. With regard to English learning by using computer programs, "multimedia e-book" is becoming more interesting. This is because "multimedia" includes a combination of text, audio, still images, animation, video, or interactivity content forms (Wikipedia, 2012), and "e-book" is a book in electronic form (The Free Dictionary, 2012). Thus, such a program of "multimedia e-book" can contain contents providing interaction activities for the learners. Moreover, the learners can choose to learn from a program of multimedia e-book in the computer at home or at any place at any time.

In addition, from the researcher's review of related literature, some previous studies showed positive results from applications of multimedia mediated teaching and learning for learners' learning of English as a foreign language. For example, Rabbeea's study results (Rabeea, 2012) on "The Use of Multimedia Based Learning Materials in English Language Teaching in Developing Educational Systems" revealed that multimedia based learning materials had a significant positive effect on learners' scores and that the experimental group strongly preferred multimedia based learning materials to traditional textbooks. Accordingly, from a study on "Language practice with mutlimedia supported web-based grammar revision material" conducted by Baturay, Daloglu and Yildirim (2010), the findings indicated that learners enjoyed using the material and developed a positive attitude towards the system. Besides, Huang, Chern and Lin (2009) undertook a study on "EFL learners' use of online reading strategies and comprehension of texts: An exploratory study", and the findings showed that on the whole, the use of global strategies significantly contributed to better comprehension, especially for low proficiency students. Similarly, the results of a study on "The Effect of Using Multimedia on Vocabulary Learning of Pre-Intermediate and Intermediate Iranian EFL Learners" conducted by Tabar and Khodareza (2012) showed that the treatment proved to have a significant impact on vocabulary learning of the learners. Also, from Gilakjani's study results (Gilakjani, 2012) on "The Significant Role of Multimedia in Motivating EFL Learners' Interest in English Language Learning", it was concluded in the findings that teachers need to make full use of multimedia to create an authentic language teaching and learning environment where students can easily acquire a language naturally and

effectively.

From the reasons stated above, I have been interested in developing a Multimedia e-Book: English Sentence Writing for the Students at Rajamangala University of Technology Rattanakosin through the application of error analysis for benefit of enhancing the students' basic knowledge in sentence writing. It is also hoped that such basic knowledge in sentence writing will lead to the students' development of writing ability for business communication later.

Objective

The purpose of this study was to develop a Multimedia e-book: English Sentence Writing for the Students at Rajamangala University of Technology Rattanakosin.

Methodology and Process

The study process was undertaken using an experimental research, employing the one-group pretest-posttest design. The procedure was as follows:

1. The experimental group

The experimental group consisted of a purposive sampled group of 40 senior students in Business English major in the Faculty of Business Administration of Rajamangala University of Technology Rattanakosin, Bophitphimuk Chakkrawat Campus. They studied English for Public Relations with the researcher in the first semester of academic year 2012.

2. The research instruments

Two research instruments were employed in this study. The first one was "Multimedia e-book: English Sentence Writing for the Students at Rajamangala University of Technology Rattanakosin", and the other one was "Questionnaire on Students' Satisfaction with the Developed Multimedia e-Book."

Multimedia e-book: English Sentence Writing for the Students at Rajamangala University of Technology Rattanakosin

Before the Multimedia e-book was constructed by using the program of Desktop Author, its contents and exercises were set through the following steps.

First, the researcher gave the experimental group a test consisting of 40 sentences with common mistakes based on Swain's sample sentences (Swain, 2009). Then, their mistakes in the written work of sentences in the test were analyzed through the use of the principles of error analysis. After that, the learning objectives based on the results from the error analysis of the experimental group's written work were set up. Later, appropriate contents to suit the learning objectives were selected through studying related documents and textbooks about basic sentence writing and how to select the contents. Finally, the contents were sequenced to suit the learning objectives, and the contents were divided into 9 units: (1) Sentence Structure, (2) Basic Sentence Patterns, (3) Phrases, (4) Simple Sentences and Compound Sentences, (5) Complex Sentences-Noun Clauses, (6) Complex Sentences-Adjective Clauses, (7) Complex Sentences-Adverb Clauses, (8) Conditional Sentences, and (9) Passive Sentences.

Also, the researcher constructed the Pretest and the Posttest, which covered all the contents of basic sentence writing included in the Multimedia e-book. The Pretest and the Posttest were similar. 65 items in each test covered all of the contents in the 9 units in the Multimedia e-book. The number of the test items that captured the content in each unit in the Multimedia e-book can be shown below:

Unit	Content	No. of Test Items (65)
1	Sentence Structure	10
2	Basic Sentence Patterns	15
3	Phrases	6
4	Simple Sentences and Compound Sentences	5
5	Complex Sentence-Noun Clauses	3
6	Complex Sentence-Adjective Clauses	9
7	Complex Sentence-Adverb Clauses	6
8	Conditional Sentences	4
9	Passive Sentences	7

Also, separate test items corresponding to the contents in different units are shown in Table 2.

Actually, some test items cannot be clearly split to correspond only to one unit. Thus, the number of the test items in each unit as shown above is not the same. For example, the test item V47 which required the experimental group to give the correct form of the verb in brackets: "Please tell me when the report (finish)." was catagorized in the content in Unit 9 in the table. This test item also needed the experimental group's knowledge of the content in Unit 5: Complex Sentence-Noun Clauses.

After the contents, the exercises and the Pretest and the Posttest were set up, the researcher used the program of Desktop Author to construct "Multimedia e-book: English Sentence Writing for the Students at Rajamangala University of Technology Rattanakosin" which included the contents and exercises in 9 units in the pattern of drill and practice. Then, the Multimedia e-book was tried out with a sample group of 10 students who volunteered to use it. They were students in Marketing major who studied with the researcher in the course of English for Business Communication. Some revisions of the multimedia e-book such as corrections of spelling of words and the showing of the exercise results were conducted as appropriate.

Questionnaire on Students' Satisfaction with the Developed Multimedia e-Book.

After studying documents, textbooks and research relating to the development of a multimedia e-book, and the method of assessing computer assisted instruction, the researcher constructed the rating scale questionnaire with an open ended question at the end for the answerers to freely give opinions and suggestions. The constructed questionnaire was tried out with the same group of 10 volunteered students, who used the Multimedia e-book in the trying-out process. The purpose of the trying-out of the constructed questionnaire was to see if the messages in the content items were clear to the answerers. Anyhow, the volunteered students gave no suggestions for revisions of the wordings in the content. So, the constructed questionnaire was brought to use in the experiment process.

3. The experiment process

In the process of experiment, the researcher gave the Pretest to the experimental group before giving each of them a CD of the program of the Multimedia e-book containing 9 units of the contents and exercises of drill and practice. In the CD there was a file giving instructions about how to use the program so that the samples could learn how to use the program on their own, and they were assigned to complete all 9 units of the e-book within 2 weeks. This was to serve the objective of self-directed learning ability enhancement in the learners.

Here are examples of the content and exercise in the CD.

In using the program of the Multimedia e-book, the samples had to read the contents and do the accompanying exercises in each unit before recording the results in the record sheet provided. Then, after 2 weeks of using the program of Multimedia e-book, the experimental group handed in the record sheet which showed their study results. At this stage, the researcher gave the experimental group the Posttest which was similar to the Pretest. After that, the researcher distributed copies of the satisfaction questionnaire to the experimental group to complete and then collected the completed copies of the questionnaire.

In the step of data analysis, the total exercise score resulting from the experimental group's use of the program and the Posttest score were compared to find out the value of the effectiveness of the Multimedia e-book. However, with regard to developing good writing skills in English, it is considered that such skills come from practice, determination and hard work (Myles, 2008; Bloomsbury International, 2012). Also, the researcher considered that the contents about English sentence writing in the Multimedia e-book were of some difficulty to the experimental group. Thus, the researcher set the criterion of the value of effectiveness of the Multimedia e-book at 75/75. This set criterion was in compliance with the generally accepted set criterion for the innovated materials containing contents of complex elements for understanding and for the materials designed for improving skills which need practising in a long period of time (Promwong, 2008). In addition, to find out the differences between the average scores of the Pretest and the Posttest of the experimental group, the analysis of Paired Dependent Sample Test was undertaken. Moreover, the researcher analyzed the results of the answers to the

Questionnaire on Students' Satisfaction with the Developed Multimedia e-Book to find out scores of mean and S.D. by using the SPSS Program.

As earlier mentioned, the steps in the experimental process and data collection could be summed up as shown below.
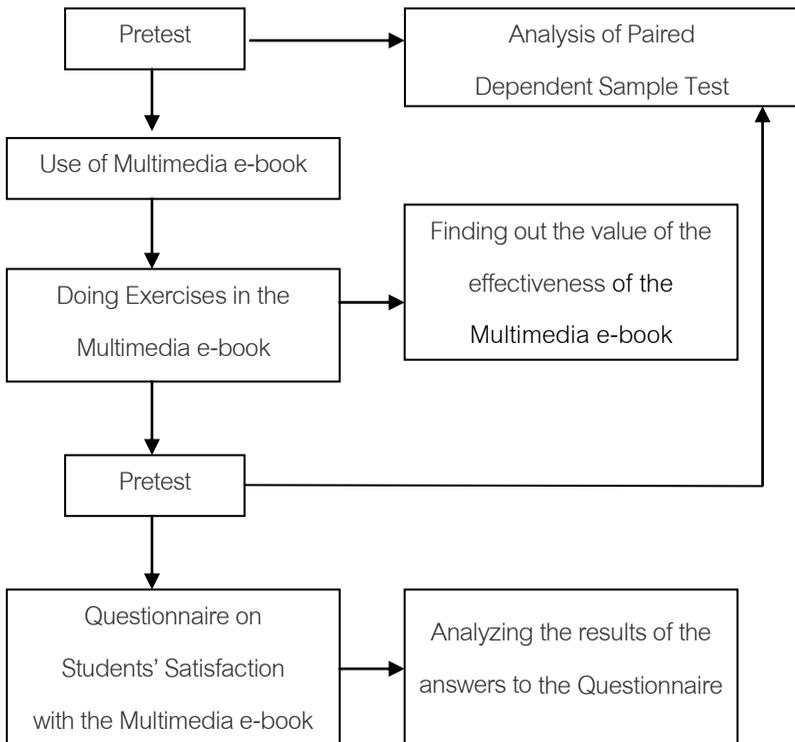

Figure 1 Steps in the Experiment Process

Results and Discussion

The results from the experiment and points to be discussed were as follows:

1. As for the value of the effectiveness of the Multimedia e-book resulting from comparing the experimental group's Multimedia e-book exercise score and the Posttest score, the results revealed as shown below:

Table 1 Data for finding out the value of the effectiveness of the Multimedia e-book

| No. of students | Exercise Score | | | | | | | | | Posttest Score (65) |
	Unit 1 (20)	Unit 2 (20)	Unit 3 (20)	Unit 4 (20)	Unit 5 (20)	Unit 6 (20)	Unit 7 (20)	Unit 8 (20)	Unit 9 (20)	
1	18	16	15	16	17	14	16	15	15	51
2	13	11	14	12	15	13	16	14	13	46
3	16	10	14	12	10	11	15	13	15	50
4	19	17	20	17	16	18	16	19	19	63
5	20	20	20	20	20	20	20	20	20	49
6	18	17	15	16	16	15	12	12	11	53
7	14	12	13	11	11	16	14	10	13	49
8	14	12	13	11	11	16	14	10	13	53
9	16	11	13	16	12	15	14	15	13	49
10	17	16	15	15	15	12	11	11	13	56
11	19	17	15	13	12	15	14	16	14	48
12	19	17	15	13	12	15	14	16	14	52
13	20	20	20	20	20	20	20	20	20	42
14	20	20	20	20	20	20	20	20	20	58
15	14	12	13	11	11	16	14	10	13	52
16	18	15	19	16	14	18	17	16	15	55
17	18	14	15	19	10	14	15	10	12	47
18	14	11	15	12	16	13	13	16	12	40

Table 1 (continued)

| No. of students | Exercise Score | | | | | | | | | Posttest Score (65) |
	Unit 1 (20)	Unit 2 (20)	Unit 3 (20)	Unit 4 (20)	Unit 5 (20)	Unit 6 (20)	Unit 7 (20)	Unit 8 (20)	Unit 9 (20)	
19	20	20	20	20	20	20	20	20	20	46
20	20	20	20	20	20	20	20	20	20	53
21	17	13	13	12	15	16	14	12	13	30
22	17	16	17	18	17	16	16	17	18	39
23	11	15	13	16	14	12	11	16	15	56
24	11	13	13	14	13	14	14	15	16	49
25	13	12	11	16	15	13	17	14	16	58
26	17	17	16	17	17	16	17	16	17	55
27	12	15	14	17	14	15	15	13	16	58
28	19	15	17	17	12	13	17	12	13	55
29	19	15	17	17	12	13	17	12	13	58
30	19	12	14	13	12	15	10	13	14	57
31	20	20	20	20	20	18	20	20	19	37
32	20	20	17	18	15	19	19	17	16	53
33	16	17	16	16	15	17	16	16	17	50
34	16	18	18	18	10	11	18	14	16	57
35	17	13	17	16	12	14	15	12	13	58
36	16	15	17	15	14	16	11	13	11	59
37	17	19	18	18	13	15	16	16	17	61
38	14	12	14	15	13	17	16	15	16	57
39	17	18	18	18	16	18	17	18	17	47
40	15	14	17	13	15	15	18	17	16	57
Total	670	617	641	634	582	624	629	601	614	
Grand total	5612									2063

From the data above, the value of the effectiveness of the Multimedia can be analyzed as in the following:

$$E_1 = \frac{\sum X1}{NxA} \times 100 = \frac{5612}{40 \, X \, 180} \times 100 = 77.94$$

$$E_2 = \frac{\sum X2}{NxB} \times 100 = \frac{2063}{40 \, X \, 65} \times 100 = 79.34$$

"E_1" means the effectiveness of the process. "$\sum X1$" means the total sum of the exercise scores or the activity scores in the units of the program. "A" means the full score of the exercise scores or the activity scores in the units of the program. "N" means the number of the learners.

In the meantime, "E_2" means the effectiveness of the results. "$\sum X2$" means the total score of the Posttest. "B" means the full score of the Posttest. "N" means the number of the learners.

Thus, from the figures above the value of the effectiveness of the Multimedia e-book (E /E) was 77.94/79.34, which was in the range of the earlier set criterion of 75/75. Such a result could be discussed that due to the experience in estimating learners' ability in learning English, the researcher could set a close criterion to the reality of the results. Moreover, the designed contents and exercises with some levels of difficulty could reflect the degree of the value of the effectiveness of the Multimedia e-book in advance.

2. As for the average scores of the Pretest and the Posttest of the experiment group, it was found that the average pretest score was 37.83 points out of the total score of 65 points with an S.D. of 8.83 points, whereas the average posttest score was 51.58 points out of the total score of 65 points with an S.D. of 6.96 points.

With regard to the differences between the average scores of the Pretest and the Posttest of the experimental group through the analysis of Paired Dependent Sample Test, it was found out as shown in the table below:

Table 2 Differences between the average scores of the Pretest and the Posttest of the experimental group

	Differences of Average Scores	Number of Students	Std. Deviation	T	Sig. (2- tailed)
Posttest Score-Pretest Score	13.75	40	1.297	10.599	0.000

From Table 2 above, it can be seen that the average posttest score was significantly higher than the average pretest score at the significant level of .05 resulting from the use of the Multimedia e-book.

This finding can be discussed that the program of the Multimedia e-book which had been designed with the idea of giving immediate feedback after the learner's submission of the answers, could help the learners' learning as they could review the lessons at once after obtaining the results from doing the exercises in the lesson. Moreover, the aspect of interactions in the program, which could stimulate the learners to think to make a decision in choosing the best answer, and also to review the lesson as needed before resuming their learning, could lead to the learners' better understanding in the contents of what they were assigned to learn. This idea is relevant to Gagne's 9 steps of instruction (Wikipedia, 2013) and the learning theory of Cognitivism (Learning-Theories.com, 2010), which states that people are rational beings that require

active participation in order to learn, and whose actions are a consequence of thinking.

      3. Average scores of separate test items resulting from the posttest of the experimental group can be seen below:

Table 3 Average scores of separate test items resulting from the posttest of the
        experimental group

Part/ Item	I. For each group of words that is a sentence, write "S" in the corresponding column. If it is a fragment, write "F" in the corresponding column. (10 points)	Mean	Content in Unit
V1	1. Just keep quiet.	0.93	1
V2	2. Until I arrive home.	0.95	1
V3	3. Please call me back.	1.00	1
V4	4. Because it is very important.	0.13	1
V5	5. Listen to me.	0.98	1
V6	6. To reach the ultimate goal.	0.98	1
V7	7. Late again.	0.98	1
V8	8. It's up to you.	1.00	1
V9	9. What happened?	0.93	1
V10	10. Creative thinking.	1.00	1
	II. Give the correct forms of the verbs (to+V1, Ving or V3) in the sentences. (5 points)		
V11	1. (Get) a good grade, you should study harder.	0.43	3
V12	2. The man (talk) to the manager is our new supervisor	0.95	3
V13	3. It was nice (hear) from you.	0.08	3
V14	4. The book (recommend) by the teacher cannot be found	0.90	3
V15	5. The workers (ask) for a higher salary may go on a strike.	0.95	3

Table 3 (continued)

Part/ Item	III. Complete the following sentences. Use only one word in each blank. (10 points)	Mean	Content in Unit
V16	1. All of us…...Mary a good person.	0.95	2
V17	2. My new house is………..……	0.95	2
V18	3. My mother……………in a good mood today.	0.75	2
V19	4. I………in the library yesterday afternoon.	0.50	2
V20	5. We………………good students.	1.00	2
V21	6. When will Somsri…..a secretary?	0.95	2
V22	7. This factory………1,000 units of refrigerators a day.	0.90	2
V23	8. Don't…………me a lie.	0.63	2
V24	9. Today Jack looks…………	0.93	2
V25	10. Nothing is…………..in this department store.	0.85	2
	IV. Identify whether the sentences below are simple sentences or compound sentences. Write "SS" for "Simple Sentence" and "CS" for "Compound Sentence" in the box provided. (5 points)		
V26	1. I will go shopping and seeing a movie next weekend.	0.98	4
V27	2. I don't like either meat or chicken.	1.00	4
V28	3. You should not eat big dinner; it can make you fat.	0.98	4
V29	4. He did not stop smoking, nor did he stop drinking.	0.88	4
V30	5. I tried to talk to her; however, she was not interested.	1.00	4

Table 3 (continued)

Part/ Item	V. Put the words like who, whom, whose, that, when, where, though, if or etc. in the blanks as appropriate. (10 points)	Mean	Content in Unit
V31	1. Could you tell me……………the meeting will be held?	0.95	5
V32	2. I am sorry…………Paul failed the exam.	1.00	5
V33	3. The girl……...dog died is crying.	0.95	6
V34	4. The land on……….a new house was built belongs to my father.	0.50	6
V35	5. Is Peter the one…………you talked to yesterday?	0.93	6
V36	6. He is not sure about the time………… he will be available for an appointment.	0.10	6
V37	7. …………we are very careful, we can make mistakes.	0.60	7
V38	8. We will send you the products…………we receive your confirmation of the order.	0.68	7
V39	9. It would be nice………….you could come.	0.95	7
V40	10. Wanna has never been abroad………she speaks very good English.	0.90	7
	VI. Give the correct forms of the verbs in brackets. (10 points)		
V41	1. If I (win) the lottery, I would have bought a new car.	0.88	8
V42	2. I would not be late if I (be) you.	1.00	8
V43	3. If you study hard, you (pass) the test.	1.00	8
V44	4. The program (send) to you next week.	0.98	9
V45	5. No new products (manufacture) last year.	0.93	9
V46	6. If John had a lot of money, he (buy) a new house.	0.83	8

Table 3 (continued)

Part/ Item	VI. Give the correct forms of the verbs in brackets. (10 points)	Mean	Content in Unit
V47	7. Please tell me when the report (finish).	0.90	9
V48	8. The letter (type) now.	0.78	9
V49	9. I would like to know when these photos (take).	0.85	9
V50	10. By 4 p.m. tomorrow, all items of your order (deliver).	0.13	9
	VII. Join each pair of sentences by using appropriate relative pronouns (who, whom, whose, which, where or etc.) (5 points)		
V51	1. The new watch seems very splendid. My mother bought it for me.	0.78	6
V52	2. That is the building. The exchange students will stay there.	0.30	6
V53	3. I have never seen the man. His arm is broken.	0.93	6
V54	4. Did you see the lecturer? We invited him to be our guest speaker.	0.75	6
V55	5. The boy will come here next Monday. He won the first place in the speech contest.	0.78	6
	VIII. Correct the following sentences. (10 points)		
V56	1. We went there for join the English Camp.	0.95	3
	VIII. Correct the following sentences. (10 points)		
V57	2. The report should finish before I come back.	0.85	9
V58	3. The people in Chiang Mai is very friendly.	0.95	2
V59	4. I gave to him my e-mail address.	0.90	2
V60	5. She told me she has a stomachache.	0.75	5
V61	6. Although it rained, but he went out.	0.78	7
V62	7. She is boring with him.	0.53	2
V63	8. The most of people agree with him.	0.05	2
V64	9. Jane married with George.	0.55	2
V65	10. When she had opened the door, her	0.58	7

As shown in Table 3 above, it can be seen that the average scores of some test items are lower than 0.2. Such test items are V4 (about how to use "because"), V13 (about how to use "infinitive verb"), V36 (about adjective clauses using when), V50 (about how to use Future Perfect Tense) and V63 (about how to use "Most + Noun"). The results implied that most of the experimental group did not understand those elements in English usage. Also, they possibly could not remember the correct use of such elements. They may need more time for practice. So, these errors should be raised for corrections appropriately. Otherwise, the errors can be repeated until they are fossilized. Fossilized errors can be problematic in writing because the errors become ingrained, like bad habits, in a learner's repertoire, and they reappear despite remediation and correction (Myles, 2008).

4. Results of the answers to the Questionnaire on Students' Satisfaction with the Developed Multimedia e-Book can be shown as follows:

Table 4 Results of the answers to the Questionnaire on Students' Satisfaction with the Developed Multimedia e-Book

Item	Content	Mean	SD	Level of Satisfaction
1	The program is easy to use.	4.18	0.59	High
2	The difficulty of the content in each unit is at the suitable level.	4.20	0.56	High
3	The sequence of the content is suitable.	4.25	0.63	High
4	The exercises are relevant to the contents in the lessons.	4.35	0.62	High

Table 4 (continued)

Item	Content	Mean	SD	Level of Satisfaction
5	Doing the exercises as designed can make you understand the contents.	4.23	0.70	High
6	The program provides opportunities for interactions while learning.	4.30	0.69	High
7	Taking interactions in the program can help you learn the contents.	4.37	0.63	High
8	Taking interactions in the program can make you enjoy the lessons.	4.40	0.63	High
9	The program provides opportunities for the learners to repeat the lessons and review the contents.	4.47	0.60	High
10	The program provides flexibility for the learners' learning according to their learning pace.	4.27	0.60	High
11	The program designed for the learners to repeat the lessons can make the learner to be more accurate in the contents learned.	4.25	0.67	High
12	The lessons enhance your basic knowledge about English sentence writing.	4.22	0.62	High
13	The lessons facilitate your English sentence writing.	4.15	0.62	High
14	The lessons can supplement your learning in the classroom.	4.25	0.54	High
15	The lessons are challenging enough.	4.30	0.61	High

Table 4 (continued)

Item	Content	Mean	SD	Level of Satisfaction
16	The immediate feedback of your learning esults is good for your learning.	4.22	0.70	High
17	The lessons can stimulate your learning interest.	3.97	0.73	High
18	The program can enhance your self-directed learning ability.	4.23	0.66	High
19	The program is beneficial for your English learning.	4.55	0.50	Highest
	Average	4.27	0.63	High

Table 4 reveals that the experimental group expressed their high satisfaction with the Developed Multimedia e-Book at the level of 4.27 out of the rating scale of 5, with an S.D. of 0.63. This finding can be discussed that the program of the Multimedia e-book as designed for the learners to exercise their learning according to their learning pace and to encourage their self-directed learning could lead to their satisfaction from the use of their own efforts in learning as well as their confidence in their own learning. It can be pointed out that this satisfaction of the experimental group is relevant to Maslow's Theory (Boeree, 2006), which states that one stage of an individual's needs is Esteem needs. According to Maslow, the esteem needs are of two versions: a lower one (the need for the respect of others, the need for status, fame, glory, recognition, attention, reputation, appreciation, dignity, and dominance) and a higher one (the need for self-respect, including such feelings as confidence,

competence, achievement, mastery, independence, and freedom). So, the experimental group's more self-confidence in their self-directed learning through the use of the program of the Multimedia e-book could enhance their satisfaction with the program.

Conclusion and Suggestion

From the findings, which showed that the average posttest score was significantly higher than the average pretest score at the significant level of .05 resulting from the use of the Multimedia e-book, it can be concluded that the Multimedia e-book as designed can be of use to enhance basic knowledge in sentence writing for the students majoring in Business English in the Faculty of Business Administration at Rajamanagala University of Technology Rattanakosin. Also, with such basic knowledge in sentence writing, the students should be more ready for English writing ability development for business communication later.

Also, drawing on this finding, I would like to suggest that learners could be encouraged to learn on their own according to their learning pace through the use of e-books or other means of online learning programs. In this way, learners' self-directed learning ability could be enhanced. Hence, if possible, subject matters in all fields of study should be provided in the forms of e-books or online learning programs. I believe that with a careful plan to make use of modern technology in education as mentioned, it will be more convenient for both the students and teachers in the teaching and learning process as learning can take place at any place and any time. Moreover, this kind of learning through the use of modern technology can supplement the

teaching and learning process in the normal classroom if everything is well planned.

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