

CHAPTER 4

DATA ANALYSIS

This chapter presents the analysis of the textbook, the supplementary materials construction and the students' opinions towards the supplementary material.

4.1 Text analysis

The text analysis was used to find out which skills were absent and which skills were less focused in each unit so that these skills would be developed to use as the supplementary exercises. The author of the textbook used in the EN101 claimed that the materials were based on the Communicative Language Teaching Approach (CLT). There were twelve units in this book. It was intended to be taught for one semester (Appendix F). The principles of text analysis (Brown, 1994:150-151) were used in analysing each unit of the textbook in order to show significant gaps in skill development.

4.1.1 Goals of the course: The following table shows the comparison of course objectives and textbook objectives.

Course objectives	Textbook objectives
Students should practise the four skills of English vocabulary and basic grammatical structures related to each career in the passage (document, messages and paragraphs).	The textbook was written based on the Communicative English approach. The book can help improve the basic language use and promote the use of the four skills of English communication.

After comparing the course objectives and text analysis, it shows that the textbook objectives relate to the objectives of the course. Both are focusing on using the four skills of English. However, the textbook objectives emphasize the communication function while the course objectives do not mention the function of language.

4.1.2 Background of the students:

- a. Age:* Students who took this course are from 15 to 18 years of age.
- b. The Native language and culture:* All students are Thais and speak Thai as their first language. For them, English is a foreign language used only in the classroom. They have no background of Western culture.
- c. Education background:* Students are from different schools of the northern region. The students who come from big cities have studied English for ten years but those from remote area schools have only five-years experience with English. This factor affects their English proficiency (see appendix A). From the interviews, it was clear they learned English by using Thai language as a media and the lessons focused on grammar structures.
- d. Motivation or purpose for learning:* Students have to take English since English is a compulsory course in the primary and secondary curriculum. From the interviews, most students who took the EN101 course said that they had difficulty in reading and writing English. They often got grade “0” (failing) and had to re-test or re-take this course. They think English is not important for their future. They have little opportunity to work for international companies.

The analysis shows that the students' target age was the appropriate level to study language and new technology, but their background of education effected their English study. From the observations, research has shown that students had no background of western culture so they were not familiar with western culture. They have no motivation to study English because they cannot see the use of English outside the classroom. Moreover, their proficiency level is low because they are exposed less to English than Thai.

4.1.3 Approach: According to the textbook's author, the exercises and activities used in the this book are based on Communicative Language Teaching (Richards and Rodgers, 1986: 69-72)

a. Theory of learning Communicative Language Teaching: According to the CLT theory, activities should involve real communication, carry out meaningful tasks; and use language which is meaningful to the learners. The text provides some activities that are real communication. In units 1 and 2 the activities are real communication as students practise the patterns of the tasks in their daily life. Some are not real or meaningful, such as in unit 5 (pp. 34-39) these tasks were not meaningful because they cannot be used in real situations.

b. Theory of language of Communicative Language Teaching: Language is a system for the expression of meaning, primary function interaction and communication. Some tasks in the textbook offer the development in communicative competence. For example, in unit 7, task 2 (p.50), task 3 (p. 51).

4.1.4 Language skills: The textbook does not show the balance of the four skills' practice in each unit. This table represents the skills in the textbook.

Unit	Topic	Listening	Speaking	Reading	Writing
1	Who are you?	None	1 exercise	3 exercises	5 exercises
2	Routines	1 exercise	1 exercise	4 exercises	4 exercises
3	A Date with Tim	1 exercise	None	4 exercises	3 exercises
4	Mine is bigger	1 exercise	None	2 exercises	5 exercises
5	China	1 exercise	1 exercise	3 exercises	5 exercises
6	What am I?	1 exercise	None	6 exercises	6 exercises
7	Everyday conversation	1 exercise	1 exercise	4 exercise	7 exercises
8	Service with smile	1 exercise	None	7 exercises	6 exercises
9	Star signs	1 exercise	1 exercise	4 exercises	3 exercises
10	What's on TV?	1 exercise	1 exercise	3 exercises	7 exercises
11	Do you read it every day?	1 exercise	None	5 exercises	7 exercises
12	Would you like to be a millionaire?	1 exercise	1 exercise	6 exercises	6 exercises
Unit	Topic	Listening	Speaking	Reading	Writing
	The percentage of skills focused on textbook	8.27%	5.27%	38.34%	48.12%

From the analysis above, Percentage is utilized to analyse tasks. The main tasks focused on writing skill (48.12%); reading skill was 38.34%; listening skill was 8.27%, and the least proportion was speaking skill (5.27%). The instructions in the textbook do not state clearly what skills of language the students should practise.

Teachers have to make their own decision of how to teach or what skills they want their students to learn.

4.5 General content: The textbook showed:

- a. **Validity**: The textbook shows some validity because its objectives correspond to the course objectives, but some tasks in the textbook do not follow the unit objectives or textbook objectives. (unit 5, task 1, 2, 3, pp. 35-37).
- b. **Authenticity of language**: There is some authentic content when the tasks use real advertisements (unit 11 and 12, pp. 82-92). Most tasks simplified and modified the language for primary level. For example, listening skill, the tasks are as follows: fill in one word, write numbers or underline correct words. Students lack the opportunity to listen to the native speakers and familiarise themselves with the native speaker accents. Speaking skill is in the application level of Bloom taxonomy (cited in Brown, 1994) which is higher than the students' proficiency level. The reading passages are written by using very simple and easy vocabulary in short sentences and writing skill is at the beginning level related to reading skills.
- c. **Appropriateness and currency of topics, situations, and contexts**: After analysing the textbook, Some topics give wrong concepts (unit 5 task 1 and 2) and there is no relationship of topics (unit 1, 2 and 3: pp.1-27). Some topics are not interesting so students are not motivated to study English (unit 5, pp. 34-47). Some topics show the conflict between gender for Thai culture (unit 3, p. 24).

d. Proficiency level: The textbook shows the beginning level of proficiency because the language is easy. It provides the knowledge level that suits the students' proficiency. Students lack opportunity to practise listening skills because the tape cassette is not in the best quality. The speaking skill jumps the level of knowledge to the application level so it is difficult for the students to follow.

4.6 Quality of practice material:

a. Exercises: There are varieties of exercises in the textbooks but the tasks measure low level of skills. There is no proper sequence from easy ones to difficult ones. Tasks of each skill do not reinforce one another. The following is the summary of each skill offered in the textbook.

Listening skills: The voice quality of the tape attached to the textbook is soft, low and unclear. The speed of recording is in normal speed. The sub-skills of listening focus on only the knowledge level of Bloom Taxonomy (1956, Cited in Brown, 1997: 166). All listening tasks are not real communication.

Speaking skills: This part is real communication, but it is in the application level of Bloom Taxonomy. Students do not have an opportunity to practise this skill beforehand. There is no relationship between the basic level and application level.

Reading skills: The reading part is good for practising the sub-skills of reading. They are mainly focused on fact-finding, looking for specific information, identifying antecedence, arranging events and sequences,

and finding main ideas. Even though there is less relation between topic and sub-skills, it presents the development from knowledge level to comprehension level

Writing skills: In the textbook most writing tasks are based on reading passages. Students have to apply knowledge and information from reading to fulfill writing tasks. Some sub-skills of writing tasks are indirect, e.g., gap filling, writing numbers, matching and answering questions.

- b. Clarity of directions:** Instructions in the textbook are unclear. For example, the instruction on page 27 “Write a short conversation to persuade your friend to do something. Your friend may agree or disagree with you” is not arranged in the correct order of functions. Practically, the functions of expression and/ or agreement or disagreement do not involve a persuasion situation. This instruction causes confusion for both teachers and students. Another example of unclear instruction is “Pair work” (Unit 4, p.31) this instruction does not indicate the direction or purpose of the textbook. This causes difficulty in planning and construction of the textbook.
- c. Active participation of students:** The majority of tasks or exercises in the textbook are individual work. Few are pair or group work activities. For example unit 8 provided only individual work activities.
- d. Grammatical and other linguistic explanation:** There are no grammatical explanations or any linguistic symbols used in listening tasks in each unit. As a result, teachers must supplement their lesson with these tasks.

- e. Review material-* there is no review material which may help students to understand the previous unit more. The students have no chance to practise more exercises to see the relationships between topics.

4.1.7 Sequencing: The scope and sequence (cited in Brown,1994: 107-110) is used to analyse the sequence of this textbook. When considering the textbook, some contents and skills are not arranged in proper sequence. This causes confusion in learning and teaching.

- a. *Sequence in grammatical structure:* When dealing with grammar features, the textbook presents nouns, adjective first, and follows with simple sentences to conditional sentences. The punctuation used in this textbook is not correct (unit 5, task 2, p. 35).
- b. *Sequence in skills:* Theoretically, advanced microskills should be built upon the primary microskills. Microskills and macroskills should be taught integratedly to reinforce one another. However, this cannot be seen in the text. Some unit instructions do not state clearly. For example, unit 4, task 4B (p. 31).
- c. *Sequence in situations:* In the textbook the activities are not arranged by situation. They are not related to one another or to the topics. For example in unit 5 “China” (pp. 34-39): Task 1 The subtopic is Siamese twins, task 2 is the comparison of Moths and Butterflies, the students are asked to compare two things but the pictures and the situation given do not serve the purpose of comparison. Students cannot get enough information to complete the task according to the instruction. Task 3 is about similarity and

difference of alligators and crocodiles. The organisation of the reading passage does not relate to the topic because the topic is about “China” but the subtopic is about animal.

The overall sequence of the textbook has each unit as independent. There is no sequence between units in the textbook. Only grammatical structures are put in proper sequence from easy to difficult, simple sentences to complex sentences.

4.1.8 Vocabulary:

The vocabulary in each unit is relevant to the topic. However, these words are not re-used in other units. The vocabulary is suitable for primary level because it is simplified and modified to suit the level of the students. Hence the vocabulary is not used in the real communication and some vocabulary presents the wrong concept in the exercise (unit 5, task 1,2, p.35)

4.9 General sociolinguistic factors:

- a. ***Variety of English:*** It is difficult to identify the varieties of English presented in the textbook because the texts are so simplified and modified they lose the identity of dialects or varieties.
- b. ***Cultural content:*** There are five units showing some cultural content, namely, unit 1, 2, 3, 4, 7, and 8, but there is one culture topic which has caused a cultural conflict between Thai and western culture because it reflects gender discrimination. This causes a cultural offence (unit 3 task 3A, p. 24).

4.10 Format: In this textbook, the format is not very attractive.

- a. ***Clarity of Typesetting:*** The letters in the captions are small and difficult to read. The typing is not clear and sharp due to the low quality of paper used in this textbook.

- b. **Use of special notation:** There are no phonetic symbols or stress/intonation markers in this textbook. There is only a list of vocabulary used in this textbook which teachers or students are able to look for at the back of the textbook. When the tasks instruct students to find references or tell functions of the words, they were printed in bold type.
- c. **Quality and clarity of illustrations:** The pictures do not present a clear concept of the topic. As a result, these pictures can caused misinterpretation about the topic so the students cannot figure out what it is about (unit 5, task 2, p35.). The illustrations are not adequately beautiful. They do not attract the students' interest and do not motivate their learning.
- d. **General layout:** The textbook and exercises are crammed onto one page. The illustration, instruction, and follow-up exercises from the same topic are separated onto different pages. This causes difficulty in reading and doing exercises. In addition some of the illustrations, are not relevant to the topics (unit 5, task 2, pp.).
- e. **Size of the book and binding:** The size of the book is suitable for the students to carry to class. It is normal size (7*10 in.)
- f. **Quality of editing:** There are a lot of misspellings in this textbook, such as fiend's is friend's (p.3), Lce break is Ice break (p.6) plus many other words on page 7, 38, 52, 62, 72, and 85.
- g. **Index, table of contents, chapter heading:** The textbook contains a preface and author introduction. There is no index, table of contents, glossary, summary or guidelines for text use.

4.11 Accompanying materials: A tape cassette is provided but the quality of sound is not good. There are no tape scripts so the teacher cannot use the scripts to re-record. Thus the students lack any opportunity to listen to the native accent.

4.1.12 Teacher's guide: The textbook has no teacher's guide, answer keys or alternative supplementary exercises.

In conclusion, the textbook analysis shows poor information content, unattractive illustrations and little if any motivational materials. This text appears to be published expressly for its intrinsic monetary return rather than to provide any sound educational material.

4.2 Framework used in constructing supplementary exercises in CD-Rom

Based on the results of text analysis, the framework of supplementary exercises was constructed by using "Materials Development in Language Teaching" (Tomlinson,1998). The supplementary exercises in CD-Rom can serve the skills lacking in the textbook and also support some activities which do not work well in the textbook. These supplementary exercises in CD-Rom can help to promote self-study and motivate students' interest through the computer. These supplementary exercises in the CD-Rom are able to measure the basic knowledge of using English in daily life and business fields. The tables below show: 1) Supplementary exercises in the CD-Rom, 2) the comparison of skills in both textbook and supplementary exercises in the CD-Rom, and 3) the comparison between text analysis and supplementary exercises in the CD-Rom.

Table 1 This table presents exercises in the CD-Rom.

Unit	Topic	Listening	Speaking	Reading	Writing
1	Getting to know people	5 exercises	3 exercises	2exercises	2 exercises
2	Customs and Cultures	4 exercises	3 exercises	3 exercises	4 exercises
3	Instructions and Directions	6 exercises	2 exercises	2 exercises	3 exercises
	Percentage of skills focuses in CD-Rom.	38.46%	20.53%	17.94%	23.07%

Table 2 Comparison of skills in the textbook and supplementary exercises in CD-Rom.

	Listening	Speaking	Reading	Writing
Textbook EN101	8.27 %	5.27 %	38.34 %	48.12 %
Supplementary exercises in CD-Rom	38.46 %	20.53 %	17.94%	23.07 %

Table 1 and table 2 present the units of supplementary exercises in the CD-Rom.

The main skill focus on in the CD-Rom is the listening skill (38.46%) as there is less listening practise in the classroom due to few listening exercises in the textbook (8.27%). The second most important skill in the CD-Rom is speaking (20.53%) because speaking exercises in the CD-Rom are more realistic and used daily when compared with those in the textbook. Moreover, this skill has the least focus in the textbook so it is necessary to provide a greater number of exercises for students' use. Reading and writing skills (17.94% and 23.07%) are less focused on the CD-Rom because they are the main focus in the textbook (38.34% and 48.12%). Table 2 shows

the comparison of the proportions of each skill in the supplementary exercise with textbook exercises.

Table 3 Comparison between textbook analysis and supplementary exercises in CD-Rom.

	Textbook	Supplementary exercise in CD-Rom
Goals of the course	Focus on 4 skills: Main focus is reading and writing skills.	Focus on 4 skills and integrated skills. The main focus is listening skill.
Background of students	Same age group, and education background	Same age group and educational background
Approach	Partly Communicative Language Teaching.	More interactive CLT
Language skills	Four skills Less listening and speaking skills.	More listening and speaking skills.
General contents	Some invalid contents Not authentic Mis-conceived situation Irrelevant topics Simplified language	More valid contents Authentic materials Variety of situations Relevant topics Real language use
Quality of practise materials	Unclear instructions and directions Variety of exercises (T/F, MC, short answer, same/different) The materials are not attractive	Clear instructions Variety of exercises Interesting, Attractive and motivate self-learner.
Sequencing	Focus on sequencing of grammar, not on sequencing of situations.	Focus on sequencing of situations.
Vocabulary	No sequence of macroskills or microskills No situations No relationship between vocabulary and unit topic No vocabulary reinforcement in each unit Wrong concept of vocabulary Not authentic vocabulary	Sequence of macroskills and microskills Based on situations Relationship between vocabulary and unit topic Vocabulary reinforcement in each unit Authentic vocabulary
General linguistic factors	Cannot identify variety of language used in the textbook Some cultural contents cause cultural offence	Variety of English accents and covers cultural awareess.

	Textbook	Supplementary exercise in CD-Rom
Format	Unclear typing No phonetic symbols Not colourful or clear pictures Crammed layout Good size of book A lot of mis-spelling Low quality tape	Clear typing No phonetic symbols Colourful and clear pictures No crammed layout Good size of exercises Correct spelling High quality tape incorporated multimedia materials
Teacher's guide	No	Only student's guide
Accompanied materials	No	Multimedia materials

In table 3 the comparison presents the analysis between textbook and supplementary exercises CD-Rom. It shows that the supplementary exercises are constructed by focusing on language skills, authentic situations, quality of practise materials and general linguistic factors. The framework of the supplementary exercises is in appendix B.

4.3 Questionnaire

A questionnaire was given to the students after they finished each exercise in the CD-Rom. The questionnaire was used to find out the students' opinions towards the supplementary exercises in CD-Rom. The MEAN used to show students opinion toward the supplementary exercises in CD-Rom is from Saengkaew (cited in Parichart's thesis, 1999, p.).

Scale	Mean range	Preference level	Learning Satisfaction
5	4.21 – 5.0	Excellent	The highest
4	3.41 - 4.20	Good	Above average
3	2.61 - 3.40	Average	Average
2	1.81 - 2.60	Poor	Below average
1	1.0 -1.80	Very poor	Fail

Part one: Personal detail

Years of learning English เรียนภาษาอังกฤษ...ปี	Computer skill เคยใช้คอมพิวเตอร์หรือไม่	Years of using computer ใช้คอมพิวเตอร์มา.....ปี
5-7 = 70%	100%	4-6 = 60%

Part one the table shows the students' background of learning English from 5 to 7 years about 70% and all students (100%) have operated computers at least 4 to 6 years (60%).

Part Two: Program Evaluation

	Mean	Interpret
1. แบบฝึกหัดทำให้ผู้เรียนเกิดการเรียนรู้	4.09	Above avg.
2. แบบฝึกหัดกระตุ้นให้ผู้เรียนอยากเรียน	4.06	Above avg.
3. แบบฝึกหัดง่ายเหมาะสมกับผู้เรียน	3.52	Above avg.
4. แบบฝึกหัดกระตุ้นให้ผู้เรียนมีความคิดสร้างสรรค์	3.79	Above avg.
5. แบบฝึกหัดกระตุ้นให้ผู้เรียนมีความคิดวิเคราะห์	4.35	The highest
6. ความยาวของแบบฝึกหัดเหมาะสมกับความสามารถของผู้เรียน	4.16	Above avg.
Program Design (การออกแบบโปรแกรม)		
7. คำสั่งที่ใช้ชัดเจน	3.50	Above avg.
8. การออกแบบของแบบฝึกหัดมีความหลากหลาย	3.25	Average
Machine Capability (ความสามารถในการใช้เครื่อง)		
9. ผู้เรียนสามารถที่จะใช้ด้วยตัวเองได้ง่าย	4.57	The highest
10. การให้สี / รูปภาพ / เสียง สวยงามและมีประโยชน์	4.01	Above avg.
11. โปรแกรมสามารถใช้บทวนได้หลายครั้งและทำให้เกิดการเรียนรู้เพิ่มขึ้น	4.25	The highest

Criteria: 1.0 - 1.81 = Fail, 1.81 - 2.60 = Below average, 2.16 - 3.40 = average, 3.41 - 4.20 = Above average, 4.21 - 5.0 = The highest

The result of program evaluation shows that the supplementary exercises by using the CD-Rom programs help promote self-study the most (4.57) and the exercises ' level of difficulty is more appropriate to the students' level. Moreover, the exercises help students acquire knowledge, stimulate the student's motivation, creative and critical thinking. The length of exercises is suitable for the students' proficiency. When looking into the program design, it can be seen how the variety of exercises at the average level and the instructions and directions are more clear. The illustrations provided are more beautiful and beneficial to learning. Concerning the convenience in using this program, students felt that it was very easy to operate the computer and to follow the program. In addition, they could redo and review the exercises as many times as they wanted. This helped them learn more. Only the variety of exercise design is average.

Part Three: Unit Evaluation

Table 4 The mean of lesson objectives.

Lesson Objectives	Unit 1	Unit 2	Unit 3
1. The objective is clearly defined. วัตถุประสงค์ที่ชัดเจน	3.97	4.06	4.25
2. The program achieves the stated purpose. โปรแกรมที่จัดตรงกับวัตถุประสงค์	3.97	3.71	4.06

Criteria: 1.0 - 1.81 = Fail, 1.81 - 2.60 = Below average, 2.61 - 3.40 = average, 3.41 - 4.20 = Above average, 4.21 - 5.0 = the highest

The table shows that in units 1 and 2 the unit objectives are clearly defined and the exercise designs correspond to the stated purposes (3.97, 4.06). In unit 3 the

objectives are the most clearly defined (4.25) and the exercise construction agree with the stated purposes to a higher extent (4.06).

Table 5 The mean of content

CONTENT (เนื้อหา)	Unit 1	Unit 2	Unit 3
1. The content correspond with the unit objectives เนื้อหาสอดคล้องกับวัตถุประสงค์	4.28	4.06	4.16
2. The content is easy to follow การนำเสนอเนื้อหาต่อการติดตาม	3.29	3.90	4.13

Criteria: 1.0 - 1.81 = Fail, 1.81 - 2.60 = Below average, 2.61 - 3.40 = average, 3.41 - 4.20 = Above average, 4.21 - 5.0 = the highest

This table shows the content corresponds to the unit objectives. The easiest content is unit 1(4.28). In unit 2 and 3 the contents are in the above average correspond to the unit objectives.

Table 6 The mean of listening skills of each unit.

Listening	Unit 1	Unit 2	Unit 3
1. Sound is clear to follow เสียงที่ได้ยินชัดเจน	4.47	4.35	4.35
2. Sound is easily to understand เสียงที่ได้ยินเข้าใจได้ง่าย	3.54	3.54	3.73
3. Accent is easy to comprehend สำเนียงที่ได้ยินเข้าใจได้ง่าย	3.54	3.34	3.40
4. Speed is easy to understand จังหวะความเร็วของเสียงเข้าใจได้ง่าย	3.46	3.57	3.37
5. Exercises help to develop listening skills แบบฝึกหัดนี้ช่วยพัฒนาทักษะการฟัง	4.44	4.06	4.09
	3.89	3.77	3.78

Criteria: 1.0 - 1.81 = Fail, 1.81 - 2.60 = Below average, 2.61 - 3.40 = average, 3.41 - 4.20 = Above average, 4.21 - 5.0 = The highest

The table shows that the sound is the clearest in unit 1,2 and 3. The sound is much easier to understand in units 1, 2, and 3. The accent and speed of speaker in unit 1 is much easier to comprehend than in the other units. The accent in units 2 and 3 is at average level. The students thought that the exercises in unit 1 helped them to develop listening skills in the highest level.

Table 7 The mean of speaking skills of each unit.

Speaking	Unit 1	Unit 2	Unit3
1. Sound is clear to follow เสียงที่ได้ยินชัดเจน	4.44	4.19	4.19
2. Situations given in the exercises are clear สถานการณ์ที่กำหนดให้ชัดเจน	3.75	3.73	3.62
3. Situation is easy to understand สถานการณ์ที่กำหนดเข้าใจได้ง่าย	3.95	3.58	3.52
4. Problem in recording your speaking ปัญหาในการบันทึกเสียง	2.94	2.63	3.0
5. Exercises help to develop speaking skills แบบฝึกหัดช่วยพัฒนาทักษะการพูด	3.54	3.54	3.34
	3.72	3.53	3.53

Criteria: 1.0 - 1.81 = Fail, 1.81 - 2.60 = Below average, 2.61 - 3.40 = average, 3.41 - 4.20 = Above average, 4.21 - 5.0 = The highest

The table shows that sound is the most clear in unit 1 and clearer in unit 2 and 3. The situation given in the exercises in 3 units are in the above average and much easier to understand (3.75, 3.73 and 3.62). The problem in recording is at an average level in all three units (2.94, 2.63 and 3.0). The exercises help students more in developing speaking skills in all three units are at the above average levels.

Table 8 The mean of reading skills of each unit.

Reading	Unit 1	Unit 2	Unit 3
1. Vocabulary is easy คำศัพท์ในเนื้อเรื่องง่าย	3.08	3.42	3.56
2. A lot of new vocabulary มีคำศัพท์ใหม่มาก	3.54	3.37	3.63
3. Questions are easy to answer คำถามในเนื้อเรื่องง่ายในการตอบ	3.05	3.31	3.21
4. Questions are easy to understand คำถามในเนื้อเรื่องเข้าใจได้ง่าย	3.60	3.48	3.65
5. The material is easy to understand เนื้อเรื่องเข้าใจได้ง่าย	3.75	3.68	3.79
6. Exercises help to develop reading skills แบบฝึกหัดช่วยพัฒนาทักษะการอ่าน	4.10	3.92	3.95
	4.02	3.53	3.63

Criteria: 1.0 - 1.81 = Fail, 1.81 - 2.60 = Below average, 2.61 - 3.40 = average, 3.41 - 4.20 = Above average, 4.21 - 5.0 = The highest

The result shows that in unit 1 the vocabulary in the reading passage is at an average level than in units 2 and 3. Unit 3 contains a lot of new vocabulary while unit 2 has a moderate amount of new vocabulary. The students thought that the questions were moderately easy to answer, and easy to understand for all three units. Moreover, they thought the reading passages/ paragraphs were rather easy to understand. They thought these reading exercises helped them in developing their reading skills.

Table 9 The mean of writing skills of each unit.

Writing	Unit 1	Unit 2	Unit 3
1. Answer the question correctly ตอบคำถามได้ถูกต้อง	3.57	3.46	3.44
2. Answer the question completely ตอบคำถามได้สมบูรณ์	3.46	3.27	3.34
3. Exercises help develop writing skill แบบฝึกหัดช่วยพัฒนาทักษะการเขียน	3.70	3.92	3.52
	3.57	3.55	3.43

Criteria: 1.0 - 1.81 = Fail, 1.81 - 2.60 = Below average, 2.61 - 3.40 = average, 3.41 - 4.20 = Above average, 4.21 - 5.0 = The highest

After completing the writing exercises in unit 1, 2, and 3 the students thought that they could answer the questions correctly. In addition, they said that they could answer the questions more completely in unit 1, and fairly completely in units 2 and 3. They realised that the writing exercises in the three units helped them in developing their writing skills.

4.4 Students performance

To improve this CD-Rom, the performance (appendix E) of the three groups of subjects was used to measure whether these exercises were acceptable or needed improvement. The criteria used to make this decision is from the Vocational Education Department (Appendix E). The passing score is 50 %. If the scores of each group in the exercise were above 50 %, the exercises would be kept in the program. If they were not, the exercises were considered unacceptable. The scores of students performance together with the results of the questionnaire were used to make decisions on which exercises needed improvement. The questionnaire's result is also used to consider these problems.

The performance (Appendix D) of three groups of subjects: Above average, Average and Below average. The performance shows that speaking and writing exercises for each unit needed improvement because students did not do the exercises. In the listening part of unit 1, only exercise 5 should be improved because the scores of students in group 1 and 2 are under 50 % (46.66 and 48.66). Reading exercises need to be improved because the scores of students in group 3 are less than 50 % (15.79 and 17.1). In unit 2, listening exercise 1 and 2 need to be improved because all groups did not pass the criteria of 50 %. All reading exercises should be improved as well because the scores of group 2 and 3 are under 50 % in exercises 1, 2 and 3. In unit 3, two listening exercises (ex 2 and 4) were accepted while exercises 1, 3, 5 and 6 should be improved. All reading exercises should be improved a little because students in group 3 did not pass 50 % of the criteria (45 and 26.66).