

CHAPTER III

METHODOLOGY

The main purposes of this study are to develop an English critical thinking syllabus for the students at the kindergarten level and to compare the critical thinking skills of kindergarten students before and after being taught through the English critical thinking syllabus. The research design and method used are presented in five sections as follows:

1. Subjects
2. The critical thinking syllabus package
3. Lesson plan adjustment
4. Data collecting instruments
5. Data analysis

3.1 Subjects

3.1.1 Population

The population of this study was students of K.3 level whose ages ranged between four and a half to six and a half years. These students had 1-2 years of Basic English. They could speak, read and write English alphabets. Also, all students knew a few words of colors, animals and fruits and other vocabulary around them.

3.1.2 Subjects

The 11 subjects of this study were selected from all the students who attended the summer program of k.3 level of Baan Dek Kindergarten School for the class of summer 2002. The class teacher of the K.3 summer program selected the subjects. These students were taught through the critical thinking syllabus for a period of 7 weeks from May to June, 2002.

3.2 The critical thinking syllabus package

This research consisted of two phases. Phase one was the development of the syllabus that consisted of 29 lesson plans. This was done through conducting a needs survey, designing a protosyllabus, and

developing 29 English critical thinking lessons plans constructed based on the result from the needs survey and the national curriculum of the prathom level. Phase two was the implementation of the 29 lesson plans for the period of seven weeks and data collection. Data collecting instruments were used in order to assess the effectiveness of the syllabus and compare the change in students' critical thinking skills. The details of the first phase of the study are discussed below:

3.2.1 Needs survey

The purpose of the needs survey was to investigate the students' needs, interests, likes and dislikes, and strengths and weaknesses. The needs survey was done through two kinds of tools, namely, interviews and observations. Interviews were conducted with teachers and parents. Three teacher interviews and parent interviews were conducted. In order to collect information about the students, the researcher did two observations with the students before the parents and the teachers were interviewed.

First, the English teacher of the K.3 and K.2 levels, the class teacher of K.3 and the class teachers of three K.2 sections were interviewed.

Altogether 5 teachers were interviewed. The students were not interviewed directly because they could not provide accurate information on their learning behaviors and their likes and dislikes. In the trial interview with the students that was conducted earlier, responses varied from time to time and they often followed their friends' responses. The teacher who had been in contact with the students knew some of the students' characteristics and needs. The same open-ended interview was used with all the teachers that consisted of four parts and inquired about the learning behavior of the students, students' likes and dislikes, the amount of content taught and students' attitudes towards English language. Then, teachers of three K.2 classes were interviewed as the K.3 subjects in the summer program could come from any of the three classes as well as from kindergartens all over Chiang Mai.

The parents of the students were interviewed because they knew most of their children's needs. This was an open-ended interview and consisted of two parts. The first part inquired about the students' personal information such as their age and the number of years they had been learning English. The second part asked parents about the interests, strengths and weaknesses of their children. Also, the atmosphere at

home concerning English language, the goals for their children and the parents' and the students' attitude towards English language were considered. The parents were interviewed when the students were still in K.2. The school informed the researcher that students from the 3 sections of K.2 classes would take the summer program. Therefore, a needs survey of parents was taken at random. The researcher interviewed five parents from each class, for a total of 15 parents. The class teachers of all the three classes chose five students from their class as the prospective subjects. Each class had more than twenty students. In Baan Dek Kindergarten School, there were three sub-classes of K.2 and it was only known a week ahead that which students would take the summer program. This was a short time for the needs survey to be conducted and for the syllabus to be developed. The needs survey interviews of parents and teachers are attached in Appendix A.

In addition to the teacher and parents interviews, the researcher observed the students twice to find out their learning behavior and the amount of English they knew. This was because the students were not yet aware of how they learnt and were not be able to respond effectively to the interview. The researcher acted as a participant observer and played

games with the students to reflect their learning styles and interests that included saying alphabets, naming animals, fruits and other things etc.

The results of the needs survey of the teacher's interview and the parents interview and the students' observations are discussed as follows.

The teachers felt that students liked to work together in groups. They thought students liked attractive visuals, use of senses, listening to stories, and other kinesthetic activities. The content areas that student were interested in were animals, food, songs and games. The results of the needs survey of the parents were similar to those of the teachers. Parents wanted their children to learn naturally. 77% of the parents felt that students should be able to think for themselves and not gain knowledge through mere rote learning. 92% of the parents were positive that their children had a good attitude towards English. 15% of the parents thought that their children had initiated talking in English at times. In addition, 92% of the parents encouraged critical thinking at home. Also, 85% of parents felt their children preferred good visuals, 50% felt they liked to draw and 15% felt their attention span was very short. The results of each question of both the needs survey interviews are shown in Appendix B. The results of the students' observations show

that students had visual, musical, kinesthetic and interpersonal learning style. This can be reflected from the fact that students were interested in pictures, songs, group work and moving around when they were exposed such activities.

3.2.2 Protosyllabus

A protosyllabus is the scope of the syllabus, which was used as the guideline for constructing the lesson plans.

The protosyllabus was developed following the National Elementary Curriculum (cited in the National Curriculum, 1992) and taking the results of the needs survey into consideration. The course objectives were set based on the elementary curriculum, whereas, the results of the needs survey helped the researcher to construct lesson plans with appropriate contents, procedures and activities to suit the needs of learners. The protosyllabus is presented in Appendix C.

The theme of the protosyllabus focused on the students' everyday lives and things that surround them such as, animals, fruits, color, flags, shapes etc. They were encouraged to draw because they like it, as stated

in the result of the parents' interview. The lessons were presented in a fun-loving way.

In this study, all the lessons were based on the higher order critical thinking skills of Bloom's Taxonomy (1960) and Beauchamp (1956). Bloom's critical thinking levels used in study were comprehension, application (order/categorize), analysis (compare/contrast), synthesis (create) and evaluation. The knowledge and the comprehension skills were used in every lesson because they lead to other critical thinking skills. Another two thinking skills from Beauchamp (1956) were giving reasons and problem-solving. Problem-solving and giving reasons are complex skills used in everyday life and are practiced by using Bloom's critical thinking skills. Thus, there were seven critical thinking skills that were taught to the students. They were, comprehension, application, analysis, synthesis, evaluation, problem solving and giving reasons.

3.2.3 Lesson Plans

After the protosyllabus was developed, the researcher constructed a total of 13 units that consisted of 29 lessons. These were the main tools for teaching critical thinking skills to the kindergarten students. The

critical thinking skills used were comprehension, application, analysis, synthesis, evaluation, problem-solving and giving reasons. Each lesson incorporated many critical thinking skills but students were assessed on only one skill because other skills lead to one main skill or other skills had been assessed in other lessons. The lesson plans are attached in Appendix D.

Regarding the validity of the lesson plans, the face and content validity have been proved by the thesis adviser and an instructor at the TEFL department of Payap University. The details of each lesson plan are shown in Table 1.

Table 1: Details of the lesson plans

Unit	Contents	No. of lessons	Critical thinking skills
1	Flags and colors	1	Knowledge
2	What, when, why	1	Giving reasons
3	Patterns and designs	2	<u>Lesson 1</u> Application (order/categorization) <u>Lesson 2</u> Synthesis (create)
4	Animals and small book	4	<u>Lesson 1</u> Application (order/categorization) <u>Lesson 2 and 3</u> Synthesis (create) <u>Lesson 4</u> Evaluation

Unit	Contents	No. of lessons	Critical thinking skills
5	Birthday months	1	Analysis (compare and contrast)
6	Seasons and dresses	3	<u>Lesson 1</u> Comprehension <u>Lesson 2</u> Watching video <u>Lesson 3</u> Synthesis (create)
7	Fruits and money	3	<u>Lesson 1</u> Giving reasons <u>Lesson 2</u> Problem solving <u>Lesson 3</u> Singing and dancing
8	Creating groups	2	<u>Lesson 1</u> Problem solving <u>Lesson 2</u> Create
9	Daily activities	2	<u>Lesson 1</u> Application (order) <u>Lesson 2</u> Synthesis (create, role-play)
10	Menus	4	<u>Lesson 1</u> Comprehension <u>Lesson 2</u> Analysis (compare and contrast) <u>Lesson 3</u> Synthesis (create) <u>Lesson 4</u> Problem solving
11	Transport	2	<u>Lesson 1</u> Comprehension <u>Lesson 2</u> Problem solving
12	The 'big book'	2	<u>Lesson 1</u> Giving reasons <u>Lesson 2</u> Problem solving

Unit	Contents	No. of lessons	Critical thinking skills
13	Swimming in the school	2	<u>Lesson 1</u> Comprehension <u>Lesson 2</u> Application (order/categorization)
Total		29	

There were eleven students in this study. The researcher identified each subject with numbers from 1-11. The details of each unit are presented as follows:

Unit 1

Unit 1 is the springboard into other lessons. This unit consists of one lesson. From the needs analysis, the researcher found out that some students knew colors and some did not. Therefore, it was essential to review colors. The language used in this lesson was very basic. Students were not required to produce structures but only name the colors and the country that a flag belonged to. From the perspective of critical thinking, this unit covered 'knowledge' skill in order to lay a foundation for further practice of the higher order critical thinking skills and also to encourage students to respond at the end of the lesson. Moreover, encouraging students to express opinions was to enhance students' confidence and for them to practice this skill as it was used in the further lessons.

Unit 2

The goal of unit 2 was to familiarize students with expressing opinions and giving reasons. Also, it covered the fact that there is not only one reason for something and that all reasons can be correct and accepted. It just depends on the person who makes opinions. This unit consisted of one lesson. Another aim of this lesson was to familiarize students with 'what, who, why, how' questions. This encouraged students to exercise their thinking.

This lesson attached English words to toys and things they see around them such as in their classroom. It gave them a feeling that the language is around them and is not something far away. Furthermore, this lesson used pictures in order to ask 'wh-' and 'how' questions. This was done to arouse students' thinking and allow them to express opinions freely. It was to introduce a new type of learning where they can express their opinions freely. While explaining the question words, the teacher put up a chart on the classroom walls so that students could see these words and their meanings daily.

In teaching this lesson, the teacher had to keep in mind that most of the time students' answers would be mostly in Thai. This was because of

their limited knowledge of the English language. Also, some students did not express their opinion about what they liked but would just choose what they liked. This is normal with students who have never been allowed to express their opinions. When the students answered in Thai, the teacher repeated in English. If the students do not understand, the teacher used realia and pictures. In addition, this lesson introduced the concept of 'no one right answer' to the students. The students could express their opinions and they were not judged right or wrong.

Unit 3

This unit took students to higher levels of critical thinking skills: students 'solve problems', 'analyze' and 'synthesize' information. Also, a minor part of this unit (lesson 2 of unit 3) required students to 'evaluate' their peers. This is the highest form of critical thinking skill. This unit consisted of 2 lessons. In terms of language use, students learned names of shapes (circle, square and triangle) and other objects. They were required to name the shapes /objects when they answered.

In this unit, students created something of their own. They created patterns of any objects they wanted to. Students were allowed to think freely and create any pattern of any object. The students who produced

wrong patterns were encouraged to correct their mistakes and were given other examples or were shown the work of other pairs. Also, students interacted continuously with the other student in the pair. They solved problems and created patterns together.

The student pairs were selected by the teacher. Less able students were paired with the better able students. The teacher did not pair two students, who had behavior problems. In this lesson, student number two was absent. The researcher paired the students as follows:

Pair	Student numbers
1	7, 8
2	6, 9
3	3, 10
4	4, 5
5	1, 11

Unit 4

This unit used one theme to cover all six levels of critical thinking skills and allowed students to give reasons. It introduced new concepts to them and allowed them to use those concepts freely. This unit consisted of 4 lessons.

Lessons 1-3

These lessons familiarized students with animals in the English language. The teacher had to carefully teach the concept of 'big' and 'small' because students were easily confused. The best option was to teach either one (big/small) first, teach comparatives of that one and then practice until students could answer. Then, the other one was taught along with its comparative (smaller than/bigger than) examples. During the lesson, the teacher showed examples of sequences with pictures on the board from 'big to small' and 'small to big'. Then, the students read the small book with the teacher. In these lessons, students were guided from the beginning to the end of making a book. If students are not guided by the teacher, they might follow their friends and may be guided wrongly. The teacher chose teams for the students for the four lessons of unit. For optimum results, students should stay in one team throughout the four lessons. The researcher grouped the students as follows:

Group	Students
1	2, 4, 5, 8
2	1, 3, 10
3	6, 7, 9, 11

Lesson 4

The aim of this lesson was to allow students to practice the higher order skill of 'evaluation'. Students were assessed by their friends and the teacher. They presented their books along with their group members. The students discovered the strengths and weaknesses of their books by comparing to those of other groups. In this lesson, students discussed the other groups' books with their friends and evaluated the other groups. Students practiced being fair and to taking other people's opinions into consideration. To help the students evaluate their friends, the teacher worked with the students first because students had never evaluated their own work before. She gave them criteria to evaluate and demonstrated the evaluation process based on the same criteria.

Unit 5

This unit consisted of one lesson. The goal of this lesson was to teach survey skills to the students. Surveying needs students to gather information, synthesize it and then report it correctly. Also, during the lesson students matched the Thai and English letters. Here, they discriminated letters from their sheets and matched with those on the board. They used comparison and contrast. Furthermore, at the end of

the lesson, after students counted the number of birthdays in each month, they used compare and contrast to find out the month with the highest frequency of birthdays.

This lesson did not aim for students to know all the English months but to be familiar with them and to know the months that have significance for them such as their birthday month, Songkran festival month (April), New Year month (January), and Christmas month (December) etc. If students relate their experiences to what they learn, they would remember it easily and for a longer period of time.

Unit 6

This unit consisted of 3 lessons, 2 in-class and one video session. The normal lesson was 45 minutes long while the video session was 25 minutes long. The goal of this lesson was to allow students to practice how to synthesize information and use it for real life purposes. Students did not only learn the vocabulary related to the seasons but also showed which clothes were suitable to which season by drawing the appropriate clothes. This unit also related to the previous unit because students saw the months again. They were not required to remember them. Students used reasoning to tell what to wear in each season.

In the second lesson, the video viewing helped students to relate the vocabulary they had learned like 'sun, hot, and play' with the song in the Barney video. The name of the song is 'Mr. Sun'. Before the students actually heard the song and danced on the video, they were familiar with it from lesson 1 and the beginning of lesson 2.

In the third lesson, students drew, colored, and labelled the clothes they thought were suitable for the summer and for the rainy season. They also named the clothes they drew.

Unit 7

This unit consisted of 3 lessons, two 45 minutes lessons and one 25 minutes lesson. The critical thinking skills covered in this unit were giving reasons, calculation and application and surveying/ investigating. The first lesson was about fruits. Students were asked to specify the fruit they liked, the one their friend liked, fruit colors or how they knew that the fruit in the picture was an apple (or another fruit). This allowed students to relate meaning to the lesson. This last part focused on the metacognitive skills of the students to help them know how they learn so that they can learn more and choose how they want to learn. When the students colored the fruits, they colored them differently. An example is

some students colored an apple red and some colored it yellow. Also, some students colored the oranges orange and others colored them green. Therefore, the rubric should be flexible to cover the students' imagination. The teacher did not mark them wrong because the answers were possible. In this lesson, the teacher asked the students to give reasons so that they could give reasons why they colored an apple yellow or green. In this lesson, the class attendance was checked by seeing students' names under the fruits they liked (exercise sheet). Also, during this class some structure was brought in with the form 'He/She likes _____'. This was the first class that required all students to speak. In the previous classes, group work was presented by only one member of each group.

The second lesson focused on students' real life tasks like buying fruits. Students answered the teacher and told the fruits they could buy with 20 baht. The teacher helped the students in each step of the lesson so that they were able to proceed with the problem. In lesson one and two, students were paired. If in one of the lessons, a student was absent, the student joined another pair or worked alone according to his

capability later. Since student number 11 was absent in this lesson, the researcher arranged the pairs as follows:

Pair	Student numbers
1	1, 4
2	3, 9
3	7, 10
4	6, 8
5	2, 5

The third lesson involved a fruit song and the teacher put up a chart and picked the most favorite fruits to fill the gaps in the chart. Students said which one was the most favorite by comparing the numbers against each fruit. These numbers represented the number of students that chose each fruit. Therefore, this lesson allowed students to compare. Finally, students sang and danced the fruit song.

Unit 8

This unit consisted of one lesson. The lesson aimed to be a periodic informal assessment of the critical thinking skills that students had learned. The skills included categorizing, analyzing, synthesizing and creating. In addition, this lesson used twenty-five pictures to give examples to the students and then asked them to solve six problems. Students were divided into 3 teams and they competed with each other

until the end of the lesson. Students were involved throughout the lesson. They picked chits of the group categories among animals, fruits and colors. Then, they picked chits numbered one, two and three for presentation order. This was done so that at the end of the lesson, students felt that they belonged to their teams and that the competition was fair. The teacher divided the teams according to the students' abilities. The researcher divided them as follows in this study:

Teams	Student numbers
A	11, 1, 5
B	4, 6, 9, 3
C	2, 8, 10, 7

Unit 9

This unit consisted of two lessons. It taught the students the critical thinking skills of sequencing and application. In this unit, students learned the names of their six daily routine activities. The aim was not for each student to memorize the six activities but to sequence them according to their actual sequences (lesson 1) and to role-play their actual sequences (lesson 2).

In lesson one, students sequenced the activities that the teacher gave to each student as an exercise sheet. They thought over their

actions. This is Metacognition. In lesson two, students did role-play of their activities and other students named the activities that a student was performing. This gave a chance for the students to help each other name the activities. Also, students compared their peers' sequence of activities with theirs.

Unit 10

This unit was composed of four lessons. Each lesson had different goals to be accomplished by the students. This unit taught vocabulary related to food to the students and students used this vocabulary to perform real-life activities. In lesson one, students touched, tasted, smelled and saw real food. Also, they saw pictures of the food they learned. The teacher practiced with the students until students were able to name the ten food items. Students competed to name the items as teams. Students read prices of one to two items in a menu.

In the second lesson, students compared and contrasted the prices of two menus. They compared each item in both menus and put stickers on the cheaper item. Students told whether their friends were right or wrong about the price. The students were asked to give reasons for their answers.

In the third lesson, students created menus in groups of three. They were guided throughout the lesson. The teacher asked the students to name their restaurants and leave space on top of their menus for the restaurant names to be written. Students created menus with five items, colored them and put the prices. Then, each group presented their menus by naming the food items and their prices.

In the fourth lesson, students pretended to buy food from one menu (restaurant) for 20 baht. They worked in pairs and named the food items they bought and how many of them they bought. If they had money left, then they told how much. Then, they bought food from another menu for 20 baht. Likewise, they named the food items they bought. Finally, students compared both menus and chose the one they liked and gave reasons for it. The teacher worked closely with all the groups by moving from one group to another and helped them to calculate, in case they had a problem. Students' choice of menus depended on each student in the pair. In this unit, student number 10 was absent. The teacher paired the students as following.

Pair	Student numbers
1	8, 9
2	2, 6

3	5, 11
4	1, 3
5	4, 7

Similar to other lessons, the pair score represented the individual score.

Unit 11

This unit was a combination of 2 lessons. The first unit taught the vocabulary about modes of transportation to the students. The students saw the toys depicting what they learned. Students chose which mode was suitable to which situation and which mode they liked and why. Students matched different modes of transport to different situations. Students solved one problem, which the teacher drew on the board. They answered one by one and gave an answer to the problem based on their opinions.

In lesson two, students solved two problems individually. The teacher presented the first problem by drawing it and students answered one by one. The second problem was the core of the lesson. Each student drew a boat on a piece of paper and colored it. From the seven things on the chart, they drew three things that they would take with them if they had to stay in the boat for three days. Students named the three things and gave reasons.

Unit 12

This unit consisted of two lessons based on the 'big book' made by the researcher. The critical thinking skills covered in this lesson were analyzing, giving reasons, and substituting by creating. In the first lesson, the teacher presented the big book to the students. It allowed the students to predict the book's content, that is, what Mini will find on her way to the forest. Students answered questions and gave reasons. They came up with items that should be taken to the jungle apart from what Mini finds. They substituted the animal (snake) that Mini saw in the jungle with another animal that could be in the jungle. Also, students learned adjectives that were the words written in different color from what were in the book. Finally, students did the exercise at the back of the book that focused on the new vocabulary learned by the students.

The second lesson focused on things students would take to the jungle. From seven things on the chart, each student chose one most important thing that he/she would take and gave reasons for it. They presented this in front of the class individually. This lesson took 25 minutes, unlike other lessons which took 45 minutes.

Unit 13

This unit allowed students to analyze and synthesize information by categorizing the vocabulary that they learned. This unit consisted of two lessons. Lesson one taught seven vocabulary items to the students and students practiced them, seeing pictures and real items. In pairs, students drew two columns with school on one side and swimming pool on the other.

In lesson two, students drew the items given on the chart in the columns which they belonged. Also, students drew other items belonging to the same category if they wanted to. Then, students named the items that they drew in each column. This lesson aimed to teach categorizing skills to the students, and let students create items belonging to the group. Students were paired in this unit so that they could help each other recall the related vocabulary and not feel pressured. Students were given the same score for the language and critical thinking evaluation as those of their partners. In this lesson, students number 5, 6 and 10 were absent. The researcher paired the students as follows:

Student pairs
1, 8
2, 7
3, 11
4, 9

The following is the second phase of the study.

3.3 Lesson plan adjustments

After syllabus implementation, each unit and lesson was adjusted as follows:

Unit 1

In this unit, when the teacher saw that the students were tired or bored with naming colors or countries, the teacher let the students draw first and then asked the question that on what occasion flags are used in their country. When the teacher did this with the students, the students became interested in drawing again.

Unit 2

In order to keep students' attention, more pictures were used. Students had a very short attention span. So, more pictures were needed in order to keep students on task.

Unit 3

1. If students did a wrong evaluation, the teacher had to re-evaluate to make it correct. The students learned to correct themselves in a right way and the teacher always reevaluated.
2. To let students evaluate their peers, the teacher moved around and asked students about the answers of each group. It would have consumed more time if each group came up and evaluated one by one because young students took time to find their seats. Hence, not all the groups were evaluated by their peers but all groups evaluated one to two groups' work, in order to save time and allow more time for practice.

Unit 4

Lessons 1-3

1. The teacher told the students in the beginning that they were comparing the actual size of animals and not the size in the pictures. The teacher stressed this often because it is not easy for young learners to imagine.
2. Full cooperative learning could not occur because the students did not know how to create a book. The teacher had to tell each group

what to do. The teacher told each student to draw an animal. When they finished, she told the student who finished first to draw another animal. This made five animals on five pages. The teacher went to each group one by one and asked students to sequence the actual sizes of the animals they had drawn. The students needed time to name each animal because some animals were not taught in the previous lesson. The teacher started by asking the students to name the smallest animal among the five. Then, students sequenced on their own, discussing with their group members.

Lesson 4

1. There was a behavior score so that students listened to their friends and stayed on task. This was told to the students.
2. For students to be able to present their books smoothly, they wrote the animal's names on each drawing. Even if they could not read, they could remember the first initial of the word.

Unit 5

1. During the first lesson, the months were repeated several times before the students could name each month. The students named the months themselves, not only by repeating after the teacher. Although

all students could not memorize all the months, when the teacher pointed at the months they helped each other name at least eleven out of twelve months. When students heard their friends say the months, they remembered more than when they heard their teacher say them because they liked to imitate their friends and seek their approval. Therefore, this strategy was very helpful because the focus of lesson one was not to let all students memorize all the months, but just to be familiar with them.

2. Also, students remembered more if they are given strategies to remember, such as, the first alphabet of each month, like 'F' for February. The teacher used corresponding pictures with each month in lesson one, for instance, pictures of water gun and some water next to 'April' to represent 'Songkran' festival, which occurs in this month.
3. The teacher should not let students match the English months with the Thai months because it proved difficult when the students tried it. Instead, the teacher should divide the students into two teams and ask each team to name each month one by one in correct order. One correct answer earned one point, a wrong answer earned no point.

This made a total of six points per team. This made the students participate more.

Unit 6

1. In this lesson, the teacher asked each student to name the picture that she pointed to. This helped students to be more focused. Also, if they could not answer and their friends helped, they remembered more. If students liked the pictures, they remembered quickly.
2. The teacher focused more on the critical thinking questions and asked students to categorize the items and overlapping items. Young students were able to think if they were guided.

Unit 7

1. All students knew 'lychee' because in Thai, it has the same name with an additional /n/. Hence, in Thai, it is pronounced /linci/. However, the teacher pronounced /lici/ again and again in order to give students a correct example and students repeated but the teacher did not say that the students' pronunciation was wrong.
2. The students could think by using metacognitive strategies and answered how they knew whether a fruit was an apple, banana etc. Although the answers were in Thai, the students were thinking by

using metacognitive thinking skills. Restricting their answers to English will stop them from expressing themselves and their thoughts.

3. Students could not use structure like ' I boughtand because.....' as planned. This was too difficult for the students. They were not asked to use such structures but rather answer how many items of each fruit they had bought and how much money they had left.
4. The teacher wrote the number of students against each fruit to find the most favorite fruit, the next highest, etc. For this to be done effectively, the picture of fruits were arranged in a vertical order, so that students could compare the numbers easily. The students were asked to put the picture of the most favorite fruit and the next favorite ones in the fruit song chart. This increased their participation and reduced classroom behavior problems.

Unit 8

1. Students were given more time to review the vocabulary.
2. The teacher practiced the three group names 'animals, colors and fruits' with the students. In this lesson, the warm-up time was very long because students needed time to recall all the related vocabulary.

3. The teacher praised the students for their work. When a group presented, the teacher asked the other two groups to count in their minds the number of items their friends created. This helped the students from being distracted or from creating classroom management problems. Also, they could help other teams.

Unit 9

1. The teacher divided the students into three teams to answer the name of each activity. This was done so that students were not pressured and helped each other remember. Also, students did not get bored.
2. The teacher did not limit students to order all the activities because they might not perform all of them in the morning. Therefore, some students numbered only four or five activities out of six activities.
3. In lesson two, students did role-play of their activities and other students named each activity. This made the students know that there was not only one right order of doing things and they also reviewed the vocabulary. It also provides good opportunity for students to express themselves. The objective of this unit was that the students would be familiar with the activities while not having to memorize all

of them. If they were familiar with these activities, they would remember them well in the future.

Unit 10

1. The teacher helped some students by giving hints like “where is milk?” “how much is it?” rather than asking “how much is milk?” Students said numbers with baht or only numbers to represent prices.
2. The students were divided into groups and the teacher chose each group and asked that group to sit on the floor in order to focus on the rest of the students. This was beneficial to the teacher because she could concentrate more on the rest of the students and use less time. The grouped students came up with their restaurant names in the meantime.
3. The teacher encouraged the students to come up and help the group member, the teacher did not limit presentation to one student only.
4. The teacher helped students with how much they had used, how much they had left, etc. The teacher helped the students who needed help with calculation or asked other students to help them. Then, the students said the names of what they bought in the first menu and what they bought in the second menu and compared their prices.

Students said which menu was better for them by saying menu one or two. The teacher also asked students to give reasons. Giving them five baht or one baht coins helped the students to calculate better. This caused management problems because students could lose them but it helped them solve their own problem of calculation.

Unit 11

1. The students played a game where one student came and pointed at an item and the student who answered first got to point next. The most well behaved student started first.
2. The teacher asked each student to name a mode of transport that the teacher pointed at before they left the classroom after lesson 1.
3. The teacher asked the students to name the color of their boat while they were working. She showed interest in their boats.
4. When students were drawing three things that they would take along in the boat: food, water, torch, computer, TV, books and fruits, the teacher went to each student several times because this was an individual task. She asked students to name the items they chose to take so that they could present them later. The teacher told the students ahead of time that this was not a trip but a situation where

they had to solve problems in order to survive so that students understood the real mission in order to make correct decisions.

Unit 12

1. When the teacher asked each student to name an animal in the jungle, she asked them to evaluate their peers' answers too. The teacher repeated so that the students heard the right pronunciation. Students evaluated whether the named animal was in the jungle.
2. The teacher asked each student what he/she would take to the jungle. When the teacher asked a student, other students discussed what else could be taken to the jungle.
3. The teacher did the exercise at the back of the book twice because students were enjoying it and this way every student would get a chance to do at least one question. The students enjoyed themselves because it was a kinesthetic activity, where students had to use threads to match the words to the pictures.

Unit 13

In this unit, the teacher played a game in order to make students attentive. There were a few new words and students would have lost their interest otherwise. The game was that one student came up and pointed to

an item and the student who answered first would be the next one to point. The first student whom the teacher selected to point was the one who behaved best in class.

The above was the discussion of the first phase of the study. The following are the details of the second phase of the study.

3.4 Data Collecting Instruments

Data collecting instruments consisted of lesson plan evaluation forms, student performance assessments and pretest and posttest done in the form of oral assessment.

3.4.1 Lesson Plan Evaluation Form

This form is the instrument used for evaluating the effectiveness of lesson plans. It includes criteria under the following headings, (1) learning objectives, (2) content, (3) teaching procedures and (4) classroom environment. The effectiveness of the lesson plan is observed through the teacher's instruction. This form is filled in by expert(s) (see Appendix H) and is the main tool used in improving the next lesson plan. At least two external experts filled in the form for all 26 lessons of the 29

lessons that were evaluated. For some of the 26 lessons, there were three or four experts that observed. There were three lessons that were not evaluated, the video session, the song lesson, and the extension lessons, where students finished their work from the previous lesson. The lesson plan evaluation form is attached in Appendix G.

The mean (\bar{X}) value of the results of the evaluation of all the experts was compared to the following criteria.

Table 2: Levels of mean score to show the quality of lesson plans

Mean (\bar{X}) scores	Effectiveness
4.50-5.00	Very effective
3.50-4.49	Effective
2.50-3.49	Moderately effective
1.50-2.49	Fairly effective
0.00-1.49	Least effective

Mean (\bar{X}) of the passing criteria was 2.50-5.00

3.4.2 Student evaluation

Student evaluations consist of two major parts (1) student performance assessments during the syllabus implementation and (2) pretest and posttest done in the form of oral assessment.

3.4.2.1 Student performance assessments

Students were assessed in 22 of the 29 lessons as some critical thinking skills, such as, 'creating' and 'evaluating' were practiced in two or three lessons. They were assessed at least once in every unit. In some units, they were assessed in all lessons. In each lesson, more than one critical thinking skill was practiced. From the 22 lessons, students were evaluated in only one critical thinking skill per lesson because the focus of one lesson was one main critical thinking skill. Other skills were ladders that helped students achieve the assessed skill. Also, the other skills being taught had been assessed earlier or were to be assessed later. During the first few lessons, the students were assessed on the critical thinking skills used for the next lessons. Lesson 17 integrated and reviewed almost all the critical thinking skills previously covered. The students were assessed based on various techniques: through fulfillment of tasks, oral assessments, role-plays, making choices, student observations, presentations, problem solving discussions, student participation, etc. The rubric of each lesson depended on the complexity of the task(s) and on the number of responses of the students. The rubric for assessment of each lesson had been set differently to match each skill

and what students had learned. The rubric assessed both language and critical thinking skills. Rubric of each lesson is attached after each lesson. The lesson plans are attached in Appendix D.

3.4.2.2 Pretest and posttest in the form of interview.

The pretest and posttest were conducted in the form of interview as the students were too young and unable to write meaningfully. The tests consisted of five questions. The total score of the pretest and the posttest was nine, one mark for each part. The first question consisted of four parts; second question consisted of two parts; and third, fourth and fifth questions consisted of one part each. It covered most of the critical thinking skills taught during syllabus implementation. Although some questions in the pretest and posttest required the students to perform certain tasks, such as, designing patterns, the students were asked to answer the final answer orally (see Appendix E for details). The critical thinking skills used in the pretest and the posttest are as follows:

Table 3: Details of the pretest and posttest questions

Question no.	Number of parts in the question	Critical thinking sub-skills assessed	Critical thinking skills assessed	Rubric for each question
1	1	Create, group items, assess	Analysis, synthesis, evaluation	Group more than 5 items= 1 Less than 5= 0
2	2	Compare and contrast, reason, choose	Analysis, giving reasons, evaluation	Name the object correctly in English=1 Incorrectly= 0, and Give reason= 1 No reason= 0
3	1	Problem-solve, reason	Problem-solving, Giving reasons	Give reason after problem solving= 1 No reason= 0
4	1	Scan, skim	Comprehension	Scan correctly= 1 Incorrectly= 0
5	1	Order, give reasons	Application, giving reasons	Predict correctly= 1 Incorrectly= 0

To avoid student misbehavior during the pretest and the posttest, the teacher told the students that they were having a test. Also, she mentioned that everyone would be able to do it and it was an oral test. This was to decrease students' anxiety level.

Regarding the validity of the pretest and the posttest, the main advisor of the thesis has proved the face and content validity. The pretest and the posttest were developed from the guideline of the National Curriculum and the results of the needs survey. The pretest and posttest rubric defines the student performances so that they fall in the set criteria.

Thus, as shown in Table 2, the rubric of the pretest and the posttest was designed for assessing the interviews because it makes the scoring more objective. The passing criterion for the total of students' performance in 22 lessons was 50%.

3.5 Data analysis

The strengths and the weaknesses of this curriculum would be known after the analysis of its implementation results. Therefore, the results of the lesson plan evaluation form and the student performance assessments were analyzed by using the SPSS (Statistical Package for Social Sciences) for Windows in order to get the arithmetic mean values (\bar{X}) and standard deviation values (S.D.). Also, the development of the students' critical thinking skills before and after the syllabus implementation were analyzed by using t-test (paired sample t-test).