### Chapter 4

### **Results of Information Analysis**

The research entitled Integrating Philosophy of Sufficiency Economy Concepts in an English Course to Promote Analytical Thinking Ability and English Proficiency of Maejo University Students had 3 main objectives. These objectives were 1) to design an English for Agriculture course that integrates the Philosophy of Sufficiency Economy concepts with Content-Based Instruction 2) to study analytical thinking ability and understanding of The Philosophy of Sufficiency Economy concepts of Maejo University students taking an English for Agricultural course 3) to study English proficiency of Maejo University students taking English for Agriculture course with an integration of The Philosophy of Sufficiency Economy. The research was implemented with 38 students who enrolled in an English for Agriculture course in the first semester of Academic Year 2016. Research Instruments in this study were 1) Lesson plans integrating the Philosophy of Sufficiency Economy with English for Agriculture course. 2) Assessment Test of Understanding in the Concepts of Philosophy of Sufficiency Economy. 3) Assessment Test of Analytical Thinking. 4) The English proficiency Tests. The results of the information analysis were presented in 3 parts along the research objectives as follows:

**Part 1:** Constructions and Results of the lesson plans Integrating Philosophy of Sufficiency Economy Concepts in an English Course to Promote Analytical Thinking Ability and English Proficiency of Maejo University Students.

Part 2: Learners' Analytical Thinking Development.

Part 3: Learners' English Proficiency Development.

Part 1 Constructions and Results of the lesson plans Integrating Philosophy of Sufficiency Economy Concepts in an English Course to Promote Analytical Thinking Ability and English Proficiency of Maejo University Students

Researcher created the lesson plans focusing on reading comprehension, writing activities, and analytical thinking based on the concepts of The Philosophy of Sufficiency Economy and desired characteristics of Maejo University students. The proto-syllabus was shown in Table 1.

Table 1 Proto-syllabus

Lesson Plan Contents Activities		Activities	Assessments
1. Agriculture in Thailand from Past to	Agriculture in	-Jigsaw Activity	1. Reading
Present: Introduction to Sufficiency	Thailand and		Comprehension Exercise
Economy (6 hours)	Products	91	
Terminal Objectives: Students will be able to	2. Past Simple	100	2. Rubrics for Mind-
read, extract information, and share ideas about	Tense, Present Simple Tense, and	1301	Mapping Activity
Thailand and agricultures.	Present Perfect		
Enabling Objectives: Students will be able to	Tense		3. Rubrics for Verbal
define vocabulary related to	3. Language used	711.	Presentation
economy, society, agriculture and	in summarizing	1 .	de II
use them correctly.	7 = 16/1	. 1-9	4. Rubrics for Writing
2. describe present and past actions	THE	1 / 7	Expression
using appropriate tenses.	KV W	// / =	*
(Past Simple Tense, Present	A A	1 / 5	5. Rubrics for Analytic Thinking Ability
Simple Tense, and Present Perfect	10 41	10/2	Thinking Ability
Tense)	11396	1/4/	
3. identify topics, main ideas, and general	Colore C		
details of the articles.	1	GRO	
4. discuss and analyze articles by using	IT UNIV		
relevant vocabulary and grammar.			
5. describe the development of		v a	2 '
Thailand in agriculture, economy	าวิทยาล	ลัยเชียส	วไหม
and society.	1011011	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	5 - 1 1 1 5
2. Philosophy of Sufficiency Economy:	1. Philosophy of	-Jigsaw	1 Reading
Moderation, Reasonableness and Self-	Sufficiency	Activity	Comprehension Exercise
immunity(6 hours)	Economy: Middle	6 3 6 1	v e u
Ferminal Objectives: Students will be able to	Path of	-Mind-mapping	2. Rubrics for Mind-
v	Moderation,		Mapping Activity
read, extract information, and share ideas about the Philosophy of Sufficiency Economy.	Reasonableness	-Paragraph	3. Rubrics for Verbal
	and Self-immunity	writing	Presentation
Enabling Objectives: Students will be able to	2. Past Simple		_ 1000110011011
1. identify topics, main ideas and correctly	Tense, Present		4. Rubrics for Writing
answer the questions from the articles.	rense, rresent		Expression
2. describe The Philosophy of			Expression
Sufficiency Economy; Middle			
Path of Moderation,			

Table 1 (continued)

Lesson Plan	Contents	Activities	Assessments
Reasonableness and Self-immunity.	Simple Tense, and		
3. use The Philosophy of Sufficiency	Present Perfect Tense		
Economy for analytical thinking	3. Language used in		
and analyzing varieties of	summarizing		
situations.			
4. use simple, compound and			
complex sentences in giving			
information.			
5. apply the language pattern learned	1919191	3	
from the lesson in writing	diamin	91	
expression.	-00-	48)	
Sufficiency Economy and New Theory	1. Sufficiency Economy	-Jigsaw Activity	1. Reading Comprehension
griculture (6 hours)	and New Theory	-Opinion Sharing	Exercise
	Agriculture	-Mind-mapping	3 \
erminal Objectives: Students will	MILLIAM	-мина-шарршд	2. Rubrics for Mind-
e able to describe New Theory	2. Rubrics for Mind-	-Paragraph writing	Mapping Activity
griculture and application for	Mapping Activity	-Faragraph writing	3. Rubrics for Verbal
armers.	The	.) / '	Presentation
nabling Objectives: Students will be able	3. Rubrics for Verbal	)) /	A-
)	Presentation		4. Rubrics for Writing
identify topics, main ideas and		10/2	Expression
correctly answer the questions from	4. Rubrics for Writing		7
the articles.	Expression		5. Rubrics for Analytic
2. describe the relationship	MI	TRS1	Thinking Ability
between the Philosophy of	AL UNI	Er	
Sufficiency Economy and the	3.11		
New Theory Agriculture.			0 1
3. describe the application of New	เหาวิทยา		AIRH
Theory Agriculture in	111101101		OTHO
government sectors, business	by Chiang	Mai Uni	versity
sectors, communities and			
household level.	ghts	reser	ved
4. discuss for an appropriate way to	0		
apply the Sufficiency Economy and			
New Theory Agriculture in daily			
lives			
5. write a paragraph using			
varieties of sentence			

Table 1 (continued)

Lesson Plan	Contents	Activities	Assessments
. Herbs and Local Plants' Qualities	1. Qualities of Herbs and	-Jigsaw Activity	1. Reading Comprehension
3 hours)	Local Plants		Exercise
Terminal Objective: Students will be able			
o tell advantages of herbs and local plants,			2. Rubrics for Mind-
and give suggestions how to use them	2. Language used for		Mapping Activity
properly for health promotion.	Presentation		3. Rubrics for Verbal
Enabling Objectives: Students will be able			Presentation
0	3. Using Punctuation		
1. identify topics, main ideas and	Marks	6	4. Rubrics for Writing
correctly answer the questions from	diamin	9/	Expression
the articles.	500	- 462 \	
2. tell the advantages and application		30	5. Rubrics for Analytic
of herbs and local plants in different		- / ?	Thinking Ability
regions of Thailand.	- B		3 1
3. describe how to grow plants for	Milmin	771	
business and household uses.	13/20	1	300
4. use appropriate vocabulary and	2 = 10		S 2.
sentence pattern to describe plants'	The state of the s		200
qualities.		. ) ) /	#
	1.1 6		
5. write a paragraph describing	1 / 21		9 //
<ol><li>write a paragraph describing process of herb application.</li></ol>	$\mathcal{M}_{\mathcal{A}}$	16/3	3//
		MA S	5
process of herb application.	1. Advantages of	-Jigsaw	1. Reading Comprehensio
process of herb application.  Vermicomposting (3 hours)	Advantages of  Vermicomposting	-Jigsaw Activity	Reading Comprehensio     Exercise
process of herb application.  Vermicomposting (3 hours)  Verminal Objectives: Students are able to	1	257 //	
process of herb application.  Vermicomposting (3 hours)  Cerminal Objectives: Students are able to the share information about	1	Activity	
process of herb application.  Vermicomposting (3 hours)  Verminal Objectives: Students are able to cell and share information about vermicomposting.	Vermicomposting	Activity -Surveying	Exercise
process of herb application.  Nermicomposting (3 hours)  Perminal Objectives: Students are able to able and share information about demicomposting.  Chabling Objectives: Students will be able	Vermicomposting  2. Language used for	Activity -Surveying Vermicomposting	Exercise 2. Rubrics for Mind-
process of herb application.  Vermicomposting (3 hours)  Verminal Objectives: Students are able to and share information about vermicomposting.  Chabling Objectives: Students will be able of	Vermicomposting  2. Language used for	Activity -Surveying Vermicomposting Project in	Exercise  2. Rubrics for Mind-Mapping Activity
process of herb application.  Overmicomposting (3 hours)  Overminal Objectives: Students are able to cell and share information about overmicomposting.  Chabling Objectives: Students will be able to cell.  1. identify topics, main ideas and	Vermicomposting  2. Language used for presentation	Activity -Surveying Vermicomposting Project in University	Exercise  2. Rubrics for Mind-Mapping Activity  3. Rubrics for Verbal
process of herb application.  Nermicomposting (3 hours)  Terminal Objectives: Students are able to able and share information about vermicomposting.  Chabling Objectives: Students will be able to ab	Vermicomposting  2. Language used for presentation	Activity -Surveying Vermicomposting Project in University -Mind-mapping -Oral Presentation -Paragraph	Exercise  2. Rubrics for Mind-Mapping Activity  3. Rubrics for Verbal
Process of herb application.  Nermicomposting (3 hours)  Perminal Objectives: Students are able to add share information about vermicomposting.  Chabling Objectives: Students will be able to add to identify topics, main ideas and correctly answer the questions from the articles.	Vermicomposting  2. Language used for presentation	Activity -Surveying Vermicomposting Project in University -Mind-mapping -Oral Presentation	Exercise  2. Rubrics for Mind-Mapping Activity 3. Rubrics for Verbal Presentation
process of herb application.  Evermicomposting (3 hours)  Ferminal Objectives: Students are able to the self and share information about the self and share information about the self and share information about the state of the self and share information about the state of the self and share information about the state of the self and share information about the state of the self and share information about the state of the self and share information about the self and share information about the self and share information about the state of the self and share information about the self and share	Vermicomposting  2. Language used for presentation	Activity -Surveying Vermicomposting Project in University -Mind-mapping -Oral Presentation -Paragraph	Exercise  2. Rubrics for Mind-Mapping Activity 3. Rubrics for Verbal Presentation  4. Rubrics for Writing
Process of herb application.  Nermicomposting (3 hours)  Perminal Objectives: Students are able to sell and share information about vermicomposting.  Chabling Objectives: Students will be able to sell and correctly answer the questions from the articles.  2. describe the process of vermicomposting in household.	Vermicomposting  2. Language used for presentation	Activity -Surveying Vermicomposting Project in University -Mind-mapping -Oral Presentation -Paragraph	Exercise  2. Rubrics for Mind-Mapping Activity 3. Rubrics for Verbal Presentation  4. Rubrics for Writing
process of herb application.  Nermicomposting (3 hours)  Perminal Objectives: Students are able to a cell and share information about the state of the share of the sh	Vermicomposting  2. Language used for presentation	Activity -Surveying Vermicomposting Project in University -Mind-mapping -Oral Presentation -Paragraph	Exercise  2. Rubrics for Mind-Mapping Activity 3. Rubrics for Verbal Presentation  4. Rubrics for Writing Expression
Process of herb application.  Nermicomposting (3 hours)  Perminal Objectives: Students are able to sell and share information about vermicomposting.  Chabling Objectives: Students will be able to sell and share information about vermicomposting.  1. identify topics, main ideas and correctly answer the questions from the articles.  2. describe the process of vermicomposting in household.  3. express ideas and exchange opinion with classmates on the topic given.	Vermicomposting  2. Language used for presentation	Activity -Surveying Vermicomposting Project in University -Mind-mapping -Oral Presentation -Paragraph	Exercise  2. Rubrics for Mind-Mapping Activity 3. Rubrics for Verbal Presentation  4. Rubrics for Writing Expression  5. Rubrics for Analytic
process of herb application.  Devermicomposting (3 hours)  Describes: Students are able to the state of the s	Vermicomposting  2. Language used for presentation	Activity -Surveying Vermicomposting Project in University -Mind-mapping -Oral Presentation -Paragraph	Exercise  2. Rubrics for Mind-Mapping Activity 3. Rubrics for Verbal Presentation  4. Rubrics for Writing Expression  5. Rubrics for Analytic

Table 1 (continued)

Lesson Plan	Contents	Activities	Assessments
6. Vegetable Production: Backyard	1. Vegetable productions	-Jigsaw Activity	1. Reading Comprehension
Vegetable Gardening, Organic Vegetable Gardening, and Hydroponic Systems (3			Exercise
hours)	2. Describing process		2. Rubrics for Mind-
Terminal Objectives: Students are able to			Mapping Activity
tell and share information about vegetable	3. Writing reports and		3. Rubrics for Verbal
production.	formats		Presentation
Enabling Objectives: Students will be able			
to  1. identify topics, main ideas and correctly answer the questions from	WHEI 24	9 2/8	4. Rubrics for Writing Expression
the articles.  2. describe how to grow organic		⇒ \ 3	5. Rubrics for Analytic Thinking Ability
vegetables for consuming.  3. express ideas and exchange opinion with classmates on the topic given.  4. use the appropriate vocabulary and sentence pattern in writing.			
7. Plant Protection and Disease Control	1. Plant protections	-Jigsaw Activity	1. Reading Comprehension
(3 hours) <b>Terminal Objectives</b> : Students are able to	2. Weed control	1	Exercise
tell and share information about Plant	2. Weed control		2. Rubrics for Mind-
Protection and Disease Control.	3. Disease control	RS	
	AI UNI	FI	Mapping Activity  3. Rubrics for Verbal
Enabling Objectives: Students will be able			
identify topics, main ideas and correctly answer the questions from the articles.	หาวิทยา by Chiang	ลัยเชีย Mai Un	Presentation  4. Rubrics for Writing  Expression
<ul><li>2. give information for proper care of plants.</li><li>3. express ideas and exchange opinion with classmates on the topic given.</li></ul>	ghts	reser	5. Rubrics for Analytic Thinking Ability
use the appropriate vocabulary and			
sentence pattern to write a			

From Table 1, each lesson plan contained different agricultural topics and learning activities. Every lesson plan had assessments in reading, writing, and analytical thinking.

Besides the English proficiency and contents in agriculture, the lesson plans also emphasized the concepts of The Philosophy of Sufficiency and the core values of Maejo University. Table 2 showed the promoted core concepts of The Philosophy of Sufficiency and the core values of Maejo University and the lessons promoted.

Table 2 Promoted Core Concepts and Values in Lesson Plans

	Promoted in Lessons						
Core Concepts and Values	L1	L2	L3	L4	L5	L6	L7
918	219	10					
<b>Sufficiency Economy Three Pillars</b>	0.7		4	6).			
Moderation		X	X	.00	20/1		
Reasonableness	X	X			9		
Self-immunity Self-immunity	WILLIAM TO THE PARTY OF THE PAR	X		X	X	X	X
Sufficiency Economy Two	2 1	20			50	2	
conditions	17	7			200	1	
Morality	M	X	1		54	X	X
Knowledge	X	X	X	X	X	X	X
Maejo University Five Core Values		96		A	- ///		
Mindfulness		- 77	X	X	X		
Aspiration	UN	IA	X				X
Excellence		X			X	X	
Justification	ne	198	BF	18	JO	X	X
Originality	X	X	X	X	nive	rsit	V

From Table 2, Moderation and Reasonableness were mainly focused in the first three lessons. Self-immunity was mainly focused in five lessons; Lesson 2, Lesson 4, Lesson 5, Lesson 6, and Lesson 7. Every lesson focused on Knowledge Condition. Morality Condition was focused in three lesson; Lesson 2, Lesson 6, and Lesson 7.

In addition, Maejo University Five Core Values were focused differently. Some Core Values might be focused in two lessons, three lessons, or four lessons. The Core Value promoted most was Originality that was promoted in the first four lesson.

Results of the lesson plan implementation were collected as the followings. In Lesson Plan 1, Agriculture in Thailand from Past to Present, learners had the opportunities to study history of agriculture in Thailand from past to present and geographical advantages. These elements made Thailand a proficient country in agriculture and relied on agriculture as a national income. From this lesson, learners knew the characteristics and strong points of Thailand. This information was essential for analytical thinking. One objective of Lesson 1 was to prepare learners for reading comprehension activities, group activities, and assessments that implemented in the following lessons.

Therefore, general information of agriculture and geography of Thailand was provided in this lesson (Knowledge). Learners would understand the prosperity of land with the quote "In the water there is fish, in the fields there is rice" (Reasonableness). In addition, this lesson also promoted the proudness of Thai identity (Originality), which was shown in Table 2.

From the observation of learners' intention and participation in class activities, it was found that most of the learners had basic background in agriculture and understanding in the climate and growing conditions of Thai cash crops especially in their hometown. Learners had different interests in agriculture. This information was useful in learning and doing group activities because most of the activities in this course were giving and sharing experience. Therefore, Lesson 1 was an introduction and preparation learners for the following lesson plans.

In Lesson Plan 2, Philosophy of Sufficiency Economy, learners had the opportunities to study the concepts of The Philosophy of Sufficiency Economy based on the three pillars; Moderation, Reasonableness, and, Self-immunity and two conditions; Knowledge and Morality. Lesson Plan 2 focused on the introduction of The Philosophy of Sufficiency Economy to Thai people and application of the philosophy for analytical thinking activities in the lessons created.

In addition, Lesson Plan 2 aimed to make learners believe in their proficiency (Originality), and ability (Excellence) in studying, doing agriculture, and other businesses. They could succeed if they make good planning and think about it thoroughly.

From the observation of learners' intention and participation in class activities, it was found that learners had previously learned and knew concepts of The Philosophy Sufficiency Economy. However, they had limited concepts with some misunderstanding and application. Some learners believed that The Philosophy Sufficiency Economy was only applicable for an indigenous agriculture, it was not suitable for massive agriculture or other professions. These misconceptions were from public release and application that conveyed information mostly on indigenous agriculture level.

Lesson Plan 3, Sufficiency Economy and New Theory Agriculture, aimed to make learners understand the connection between The Philosophy of Sufficiency Economy and application to agriculture. Learners studied the New Theory Agriculture, one of the applications of The Philosophy of Sufficiency Economy that was transferred as an example for Thais. Learners created their farm managements based on the environments and appropriate factors.

From Table 2, Lesson Plan 3 taught learners The New Theory Agriculture (Knowledge), the appropriateness in agricultural area management (Moderation), the successful outcomes (Inspiration), awareness in planning (Mindfulness), and unique that differentiate from others (Originality).

From the observation of learners' intention and participation in class activities, it was found that learners were creative and could apply The New Theory Agriculture in different situations. For example, they could apply the principle of land division to different geographical areas with appropriate planning and use of land for agricultural activities.

Lesson Plan 4, Herbs and Local Plants' Qualities, Learners had the chance to explore local herbs and plants, visit Herb and Local Plant Learning Base, search information from class materials and online database. Learners did analytical thinking activities and gave suggestions how to use each kind of plants and how to used them for health promotion.

In this lesson, the main contents were herbs and useful plants (Knowledge), health and care (Self-immunity), awareness and use of herbs and modern medicines (Mindfulness), and body of knowledge in herbs and medicines passing from generation to generation(Originality)

From the observation of learners' intention and participation in class activities, it was found that learners could access information of herbs and local plans form varieties of learning resources. Learners presented proper and interesting uses of herbs and plants in daily life.

In Lesson Plan 5, Vermicomposting, learners had an opportunity to learn the use of earthworms in getting rid of wastes with an intention for environmental and social responsibility. Learner could describe the process of vermicomposting and adaptation to use in campus or household.

In this lesson, learners learned the science of using earthworms (Knowledge) and the method to reduce waste (Self-immunity). Activities in this lesson included making a detailed plan to reduce wastes in campus using earthworms (Mindfulness) with appropriateness for local surrounding (Excellence).

From the observation of learners' intention and participation in class activities, it was found that learners understood the utilities of vermicomposting. Leaners agreed that it could help reducing wastes, reducing process of waste demolition, and protecting environment at the same time.

In Lesson 6, Vegetable Production, learners studied several types of homegrown vegetables in Thailand and foreign countries. Learners had chances to make suitable planning for different places such as in a house or limited space such as dormitory balcony with an intention to grow pesticide-free crops, save money, and be responsible for environment.

The content in this lesson emphasized on different samples homegrown vegetables (Knowledge), economizing by growing homegrown vegetables (Self-immunity). One of the activities in this lesson was to decide and present a suitable space from homegrown vegetable to class(Excellence). After class presentation, learners helped to vote for the most creative words (Justification).

From the observation of learners' intention and participation in class activities, it was found that learners had an intention to study and design the homegrown vegetables for their household. Learners could design nice areas with suitable collections of plans and timing for the crop yields.

In Lesson Plan 7, Plant Protection and Disease Control, learners learned the method and technology in controlling plant qualities, plants diseases, and insects with the minimized costs and affects to environments. Learners expressed several practices and ideas. The principles that learners used for analytical thinking were based on The Philosophy of Sufficiency Economy. Important elements were knowledge in plant protection, and moral in chemical uses.

This lesson plan aimed to give necessary ideas in plant protection (Knowledge), arise responsibilities in chemical uses (Morality), health of farmers and consumers in chemical products (Self-immunity), raise awareness in doing safety agriculture (Inspiration), promote suitable and reasonable pricing of products (Justification).

From the observation, learners had higher awareness in using chemical products, had responsibilities and moral in doing agricultural activities. Learners found that besides safety, they could save more money and make higher profits from proper agricultural practices.

To evaluate and follow the teaching and learning management, formal evaluation from Office of Academic Administration and Development, Majo University, was used to evaluate the proficiency of lecturer and course management. The evaluation was online and covered several aspects such as the ability of lecturers in teaching and making connections between other disciplinary, using teaching methodology suitable for contexts and nature of the course, teaching morals and ethical values with course, using appropriate expression and guideline in teaching, promote knowledge acquiring, creativity, and reasonableness to enhance learners' analytical thinking ability. The criteria were divided into 5 levels as the followings. 1.00 - 1.49 =Very Ineffective, 1.50 - 2.49 = Ineffective, 2.50 - 3.49 = Fair, 3.50 - 4.49 = Effective, 4.50 - 5.00 = Very Effective. The lecturer would get the evaluation result at the end of the semester, and the result of the evaluation would not affect the test score or grading. The information of the evaluation would be applied for further improvement of the course management and lecturer proficiency.

The evaluation of lecturer proficiency and course management in this research was shown in Table 3

**Table 3** Evaluation Mean and interpretation of lecturer proficiency and course management (N=38)

Evaluation Items	Mean	Interpretation
1. The ability of lecturers in teaching and making connections	4.46	Effective
between the course and other disciplinary		
2. Lecturers using teaching methodology suitable for contexts and	4.48	Effective
nature of the course based on current situations and learners' interest		
(communication and technological skills were promoted in the		
subject)		
3. Morals and ethical values were promoted in the course	4.44	Effective
4. Lecturers using appropriate expression and guidance in teaching	4.52	Very Effective
and promote knowledge acquiring in the course	8 an	
5. Lecturer promotes learners for creativity, reasonableness, and	4.42	Effective
analytical thinking ability	13	\\
Overall Mean	4.46	Effective
	1	. 1

From Table 3, it was found that the overall mean of lecturer proficiency and course management was in the Effective level (Mean 4.66). Most of the items were in the Effective level (Mean 4.42-4.48). The item with highest mean was "Lecturer using appropriate expression and guidance in teaching, promote knowledge acquiring in the course" (Mean 4.52).

To gather all the information from every part concerned with the curriculum, professional evaluation from an English Course for Agriculture was collected from classroom observation, formal course lecturer meeting, and questionnaire. The lecturers participated in course design, observed class, and gave feedback for the lesson plans and class activities created. The evaluation was applied after all the lesson plans were implemented. The criteria were divided into 5 levels as the followings. 1.00 - 1.49 = Very Ineffective, 1.50 - 2.49 = Ineffective, 2.50 - 3.49 = Fair, 3.50 - 4.49 = Effective, 4.50 - 5.00 = Very Effective.

**Table 4** Mean and Interpretation of the Lesson Plans Implemented in English for Agriculture (N=3)

<b>Evaluation Items</b>	Mean	Interpretation
1. Instruction and Class Management		
1.1 Course Contents and Course Objectives were consistent	5.00	Very Effective
1.2 Integration of knowledge, morals and ethical values with	5.00	Very Effective
course		
1.3 Using multiple teaching techniques	5.00	Very Effective
1.4 Accept enquiries and opinion sharing from learners.	5.00	Very Effective
1.5 Using questions stimulating learners to think and share	5.00	Very Effective
opinions	2	
1.6 Making appropriate conclusion in each lesson in	4.83	Very Effective
accordance with the course objectives.	1 3	
1.7 Direct and guide learners for further studies and research	4.50	Very Effective
2. Assessments	50	8
2.1 Assessments covered all the course objectives	4.67	Very Effective
2.2 Using authentic assessments	5.00	Very Effective
Overall mean (Highest score 5)	4.89	Very Effective

From Table 4, it was found that the overall mean of Lesson Plan Implemented in the course of an English for Agriculture were at the level of Very Effective (Mean 4.89). All items were at the level of Very Effective (Mean 4.50-5.00).

Lecturers in an English course for Agriculture gave opinion that course managements and lesson plans were appropriate and promote analytical thinking of learners. The contents were related and in the interest of the learners, which helped promoting the Content-based Instruction. This teaching approach would help learners better understanding in contents with higher studying intention. If lecturer taught more techniques such as information technology, learners would be more effective in learning and self-directed in searching information from varieties of resources.

### Part 2 Learners' Analytical Thinking Development

# 2.1 Learners' Perceptions of Concepts of the Philosophy of Sufficiency Economy

Analytical thinking ability based on understanding of the contents and concepts to be analyzed. This study based on concepts of The Philosophy of Sufficiency Economy, understanding of the concepts were assess before and after the implementation of the 7 lesson plans. The understanding was assessed in three parts, (Part 1) Background Knowledge in The Philosophy of Sufficiency, (Part 2) Background Knowledge in New Theory Agriculture, and (Part 3) Open-ended questions on attitude and application of The Philosophy of Sufficiency Economy.

**Table 5** Means, Standard Deviation, and Percentage of Assessment Test of
Understanding in the Concepts of Philosophy of Sufficiency Economy (N=38)

13	TOPS		Pretest			3	Posttest	
Understanding in the Concepts of Philosophy of Sufficiency Economy	Score	SD	Percent	Interpretation	Score	SD	Percent	Interpretation
Part1 Background Knowledge in The Philosophy of Sufficiency Economy (Total 25)	20.08	2.41	80.32	Very good	23.39	1.33	9.58	Excellent
Part 2 Background Knowledge in New Theory Agriculture (Total 10)	6.50	1.61	65.00	Fair 1818	8.32	1.14 <b>381</b>	83.16	Excellent
Part 3 Attitude and application the Philosophy of Sufficiency Economy (Total 5)	3.71	1.04	74.21	Good	4.79	0.47	95.79	Excellent
Average Score (Total 40)	30.29	4.25	75.72	Good	36.50	2.05	91.25	Excellent

From Table 5, learners' understanding of the Philosophy of Sufficiency Economy concepts in the pretest was at Good level (75.72 percent), and developed to Excellent level in the posttest (91.25 percent). For each category, level of

understanding was developed to the Excellent level. The part that improved most was Part 2 which was about background knowledge in New Theory Agriculture.

#### 2.2 Learners' Analytical Thinking Development

Writing a short paragraph at the end of the lesson was the activity that allowed learners to demonstrate their ability in analytical thinking in different situations based on the three pillars and two conditions of The Philosophy of Sufficiency Economy. The criteria were divided into 6 levels as the following; Excellent, Very Good, Good, Fairly Good, Fair, and Need Improvement.

**Table 6** Mean, Standard Deviation, and Percentage of Analytical Thinking Development (N=38)

Lesson Plan	Mean	SD	Percent	Interpretation
1. Agriculture in Thailand from	7.21	0.65	60.09	Fair
Past to Present:	THE			
2. Philosophy of Sufficiency	7.20	0.83	59.98	Need
Economy	116	11/6	12	Improvement
3. Sufficiency Economy and New	8.13	0.81	67.76	Fairly Good
Theory Agriculture	1AI TOTAL	TER	517//	
4. Herbs and Local Plants' Qualities	s 8.34	0.81	69.52	Fairly Good
G <sup>p</sup>				0 1
5. Vermicomposting	7.58	0.89	63.16	Fair
6. Vegetable Production	8.21	1.26	68.42	Fairly Good
7. Plant Protection and Disease	8.39	1.05	69.96	Fairly Good
Control	hts	r e	serv	e d
Mean	7.87	1.05	65.55	Fair

From Table 6, it was found that the mean of Analytical Thinking ability at the end of the semester was at the Fair level (65.55 per cents). Most of the analytical thinking skill in each unit were at the Fairly Good level. In lesson 1 and lesson 5, the analytical thinking skill were at the Fair level (60.90-63.16 percent). In lesson plan 2, the analytical thinking skill were at the Need Improvement level (59.98 percent).

Analytical Thinking Ability from the Pretest and Post Test was shown in Table 7.

**Table 7** Table 7 Mean, Standard Deviation, and Percentage of Pretest and Posttest of the Analytical Thinking Ability Assessment (N=38)

Analytical Thinking Ability	Mean	SD	Percent	Interpretation
Pretest (Total 12)	5.55	0.69	46.27	Need Improvement
Posttest (Total 12)	8.31	1.01	69.26	Fairly Good

Table 7 showed that analytical thinking ability was developed from Need Improvement level (46.27 percent) to Good level (69.26 percent) after the implementation learning lessons.

## Part 3 Learners' English Proficiency Development in English for Agriculture

From the implementation of the 7 lesson plans, learner had a chance to improve their reading and writing skills from the activities assigned for each lesson plan. Learners' reading proficiency in each lesson was shown in Table8, and writing proficiency was shown in Table 9.



**Table 8** Mean, Standard Deviation, and Percentage of learners' reading proficiency (N=38)

esson Plan Mean		SD	Percent	Interpretation
1.Agriculture in Thailand from	20.49	4.73	68.29	Fairly Good
Past to Present:				
2.Philosophy of Sufficiency	21.03	4.33	70.11	Fairly Good
Economy				
3.Sufficiency Economy and New	19.59	3.40	65.32	Fair
Theory Agriculture	0101	912		
4.Herbs and Local Plants'	18.28	3.87	60.92	Fair
Qualities	DO	Da	452	
5.Vermicomposting	19.20	4.94	63.95	Fair
6.Vegetable Production	20.40	4.72	68.01	Fairly Good
7.Plant Protection and Disease	21.12	3.60	70.39	Fairly Good
Control	Sty.	817	13	35
Overall Mean (Total 30)	20.01	4.84	66.71	Fairly Good

From Table 8, it was found that learners' reading proficiency was at the Fairly Good level (66.71 per cents) In Lesson 2 and Lesson 7, learners' reading proficiency were at the Fairly Good level, the highest score was in lesson 7 (70.39 per cent), and the second one was in lesson 2 (70.11 per cents). Lesson 1 and Lesson 6 were at Fairly Good level. And the Fair level was in Lesson3, Lesson 4 and Lesson 5 (65.32, 60.92, and 63.95 per cents)

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**Table 9** Mean, Standard Deviation, and Percentage of learners' writing proficiency (N=38)

Lesson Plans	Mean	SD	Percent	Interpretation
1.Agriculture in Thailand from	12.98	4.30	64.88	Fair
Past to Present:				
2.Philosophy of Sufficiency	13.32	4.18	66.60	Fairly Good
Economy				
3.Sufficiency Economy and	12.41	3.36	62.05	Fair
New Theory Agriculture	9181	ยนด		
4.Herbs and Local Plants'	11.56	3.66	57.80	Need Improvement
Qualities	1		182	0
5.Vermicomposting	12.20	4.27	60.75	Fair
6. Vegetable Production	12.80	3.99	64.23	Fair
7.Plant Protection and Disease	13.38	3.89	66.88	Fairly Good
Control	S	2810		785   I
Overall Mean (Total 20)	12.66	1.32	66.31	Fair

From Table9, it was found that for overall, learners' had writing proficiency at the Fair level (63.31 per cents). Learners' had the Fairly Good level in two lesson plans, the highest was in Lesson 7 (66.88) and the second one was in Lesson 2 (66.60 per cents). Lesson 1, Lesson 3, Lesson 5, and Lesson 6 were at Fair level. And in Lesson 4, learners' writing proficiency was at Need Improvement level (57.80 per cents)

English proficiency in reading and writing before and after the implementation of the lesson plans were shown in Table 10 and Table 11.

**Table 10** Mean, Standard Deviation, and Percentage of learners' reading proficiency (N=38)

Test	Mean	SD	Percentage	Interpretation
Pretest (Total 30)	16.99	3.87	56.63	Need Improvement
Posttest (Total 30)	20.92	4.47	69.74	Fairly Good

Table 10 showed that learners' reading proficiency was developed from Need Improvement level (56.63) to Fairly Good level (69.74) after the implementation of the lesson plans.

 $\textbf{Table 11} \ \ \text{Mean, Standard Deviation, and Percentage of learners' writing proficiency ($N$=$38$)}$ 

Mean	SD	Percentage	Interpretation
9.36	2.50	46.79	Need Improvement
13.60	3.82	68.00	Fairly Good
	9.36	9.36 2.50	9.36 2.50 46.79

Table 11 showed that learners' writing proficiency was developed from Need Improvement level (46.79) to Fairly Good level (68.00) after the implementation of the lesson plans.

