

Attitude of Thai instructors and students toward a distance learning system for  
agricultural extension and development programs for participating in the  
ASEAN community

By

Chalerm Sak Toomhirun

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By

Chalerm Sak Toomhirun

Approved:

---

Kirk A. Swortzel  
(Major Professor / Graduate Coordinator)

---

Donna J. Peterson  
(Committee Member)

---

Ned Browning  
(Committee Member)

---

Ronnie W. White  
(Committee Member)

---

George M. Hopper  
Dean  
College of Agriculture and Life Sciences

Name: Chalernsak Toomhirun

Date of Degree: May 8, 2015

Institution: Mississippi State University

Major Field: Agricultural Science

Major Professor: Dr.Kirk A. Swortzel

Title of Study: Attitude of Thai instructors and students toward a distance learning system for agricultural extension and development programs for participating in the ASEAN community

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Candidate for Degree of Doctor of Philosophy

The purpose of this study was to determine the attitudes of students and instructors at Sukhothai Thammathirat Open University (STOU) toward a distance learning system for agricultural extension and development programs for participating in the ASEAN community. It was also to determine the difference in attitude between undergraduate students and graduate students toward 9 factors involving the STOU distance learning system and programs. The study used mixed methods. Descriptive survey and focus groups were used to collect quantitative and qualitative data. Data were analyzed by descriptive statistics and the Mann-Whitney U test.

STOU students were employed adults who lived around Thailand who had average and above average levels of knowledge about the ASEAN Community and Open University. Graduate students had higher levels of knowledge than undergraduate students. Students and instructors learned about the ASEAN community via television programs and websites. Students and instructors had a positive attitude toward the program and distance learning system. Textbooks, workbooks and printed-based

packages via post-mail, e-Learning and e-Tutorial sessions via the internet, and face-to-face sessions via face-to-face were very appropriate methods and delivery channels. Electricity, a personal computer, and internet access were important devices to have when participating in distance learning classes. Students and instructors had average and above average skill levels with all devices skills except for English skills and skills about satellite devices. There were 5 different attitudes among undergraduate students and graduate students about students' qualification, program objectives, program structures, adequacy of learning system, and adequacy of educational services.

Recommendations for program improvement and to improve distance learning systems are applied through the 4 perspectives of the Balance Scorecard: student perspective, financial perspective, internal process, and learning and growth perspective. The model of distance education of Open University for agricultural extension program when participating in the ASEAN community (AMEI model) includes 4 stages: analysis stage, management stage, evaluation stage, and improvement and extension stage should be used for distance learning program improvement in Thailand and ASEAN countries.

Key word: distance learning, agricultural extension programs, attitude, Open University

## DEDICATION

I would like to dedicate this dissertation to my mother. She died during this journey. To my wife – Kwanta Toomhirun, my sons – Kantapong and Noppawee Toomhirun, thank you for your love and support to made my dream possible.

To Sukhothai Thammathirat Open University, thank you for support scholarship for me to study here.

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## TABLE OF CONTENTS

DEDICATION .....	ii
ACKNOWLEDGEMENTS .....	iii
LIST OF TABLES .....	ix
LIST OF FIGURES .....	xvi
CHAPTER	
I. INTRODUCTION .....	1
Statement of the Problem .....	3
Conceptual Framework .....	5
Purpose and Research Questions .....	7
Operational Definitions .....	8
Limitations .....	9
II. REVIEW OF LITERATURE .....	10
ASEAN Community .....	10
Association of Southeast Asian Nations .....	10
AIM and Purpose of ASEAN .....	11
ASEAN Political-Security Community .....	13
ASEAN Socio-Cultural Community .....	14
ASEAN Economic Community .....	15
Open University .....	15
Open Universities in ASEAN Countries .....	18
Open University in Vietnam .....	18
Open University in Singapore .....	20
Open University in Indonesia .....	22
Open University in the Philippines .....	23
Open University in Malaysia .....	24
Open University in Myanmar .....	26
Thai Open University .....	27
Sukhothai Thammathirat Open University .....	28
The STOU Educational Multimedia .....	30
STOU Agricultural Extension and Development Programs through Distance Learning .....	32



Bachelor's degree of agricultural extension program .....	32
Master's degree of agricultural extension and development program .....	34
Doctoral degree of agricultural extension and development Program .....	35
Program Evaluation .....	35
Distance Learning Systems .....	37
Models of Distance Learning and Student Support .....	39
Distance Learning Model for Agricultural Extension and Education .....	40
Managing for Distance Learning .....	42
Distance Learning Technology .....	43
Adult Learning and Learning Cycle .....	45
Principles of Extension Education .....	48
Principles of Extension Education .....	49
Demographic Characteristics of Distance Learning Students .....	50
Attitude of Students and Instructors Toward Distance Learning .....	53
Summary .....	59
 III. METHODOLOGY .....	 62
Purpose and Research Questions .....	62
Research Design .....	63
Population and Sample .....	63
Instrumentation .....	66
Validity .....	70
Pilot Study .....	70
Reliability .....	70
Data Collection .....	72
Response Rate .....	73
Variables .....	73
Data Analysis .....	75
Focus Group Analysis .....	78
 IV. FINDINGS .....	 82
Socioeconomic Status of Instructors and Students .....	83
Socioeconomic Characteristics of Undergraduate Students .....	83
Gender, age, marital status, and region of residence .....	83
Occupation, work status, and work experience .....	84
Monthly income and learning expense .....	84
Experience at STOU and distance learning education .....	84
Socioeconomic Characteristics of Master's Degree Students .....	85
Gender, age, marital status, and region of residence .....	85
Occupation, work status, and work experience .....	85
Monthly income and learning expense .....	86

Experience at STOU and distance learning education.....	86
Socioeconomic Characteristics of Doctoral Students.....	87
Gender, age, marital status, and region of residence .....	87
Occupation, work status, and work experience .....	87
Monthly income and learning expense .....	87
Experience at STOU and distance learning education.....	88
Greatest Learning Expense .....	90
Socioeconomic Characteristics of STOU Instructors .....	91
Distance Learning Devices .....	92
Having distance learning devices.....	92
Importance of devices for distance learning Education.....	94
Distance-learning technology skills.....	97
Findings Related to Research Question 2 .....	99
Students' Knowledge about the ASEAN Community.....	99
Factors of ASEAN Community that Affect STOU Programs.....	103
Sources of Information where Participants Learned about ASEAN Community .....	104
Findings Related to Research Question 3 .....	106
Factors when Considering to Study in STOU Programs .....	106
Delivery Channels for STOU Programs .....	109
Distance Learning Methods .....	111
Curriculum for STOU Agricultural Extension Programs .....	113
Applicant Qualifications when Students Apply for STOU Programs .....	116
Bachelor's degree.....	116
Master's degree.....	118
Doctoral degree.....	120
Program Objectives for STOU Agricultural Extension Programs.....	122
Bachelor's degree.....	123
Master's degree.....	124
Doctoral degree.....	125
Program Structure .....	127
Bachelor's degree.....	127
Master's degree.....	129
Doctoral degree.....	130
Findings Related to Research Question 4 .....	132
Adequacy of the STOU Learning System .....	132
Adequate Level of Educational Services for STOU Programs.....	135
Finding Related to Research Question 5.....	139
Participants' Suggestions on the Program and the Distance Learning System.....	143
Program Curriculum .....	144
Program Structure .....	145
Distance Learning Methods .....	146
Delivery Channel .....	147

Student Support.....	148
Results from the Focus Group .....	149
Focus Group Results from Undergraduate Students.....	151
Outcome 1: To understand what motivates students to study the STOU programs .....	151
Outcome 2: To understand the strength of the STOU programs .....	154
Outcome 3: To understand students' knowledge about participating in the ASEAN Community .....	158
Outcome 4: To understand program benefits for participating in the ASEAN Community .....	159
Outcome 5: To understand appropriate learning methods for program development .....	160
Outcome 6: To understand the appropriate learning support for program development .....	162
Focus Group Results from Master's Degree Students .....	164
Outcome 1: To understand what motivates students to study STOU programs .....	164
Outcome 2: To understand the strength of STOU program.....	166
Outcome 3: To understand students' knowledge about participating in the ASEAN community.....	169
Outcome 4: To understand program benefits for participating in the ASEAN community .....	169
Outcome 5: To understand appropriate learning methods for program development .....	170
Outcome 6: To understand the appropriate learning support for program development .....	171
V. CONCLUSIONS, DISCUSSION AND RECOMENDATIONS .....	173
Conclusions.....	174
Socioeconomic Status of STOU Instructors and Students.....	174
Information about ASEAN Community .....	177
Attitudes towards STOU Programs .....	178
Attitudes towards the STOU Distance Learning System.....	179
Difference between the Attitudes of Graduate Students and Undergraduate Students .....	180
Discussion .....	182
Recommendations.....	185
Balanced Scorecard.....	185
The AMEI Model.....	188
Recommendations for Further Research.....	193

REFERENCES .....	195
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## APPENDIX

A.	IRB E-MAIL & INFORMED CONSENT DOCUMENT IN ENGLISH AND THAI .....	202
B.	QUESTIONNAIRE FOR UNDERGRADUATE STUDENTS .....	206
C.	QUESTIONNAIRE FOR MASTER'S DEGREE STUDENTS .....	216
D.	QUESTIONNAIRE FOR DOCTORAL STUDENTS .....	225
E.	QUESTIONNAIRE FOR INSTRUCTORS .....	234
F.	FOCUS GROUP SCRIPT .....	244
G.	TABLES OF RESULT .....	247

## LIST OF TABLES

1	Comparison of Distance Learning Technologies (Picciano, 2001).....	44
2	The Styles That Adults Like and Dislike (Rogers, 2001) .....	47
3	Reliability Statistics via Cronbach's Alpha Test ( $n = 30$ ).....	71
4	Values for Weak, Moderate, and Strong Correlation Coefficients (Jackson, 2010).....	72
5	Meaning of the 5 Level Likert-Type Statements .....	78
6	Focus Group Script.....	80
7	Frequency and Percentage of Socioeconomic Characteristics of Students.....	89
8	Ranking of Learning Expenses from Greatest Expense to Least Expense by Students .....	91
9	Frequency and Percentage of Socioeconomic Characteristics of Instructors.....	92
10	Frequency and Percentage of Students Having Distance Learning Devices .....	93
11	Students and Instructors Rating of Importance of Devices for Distance Learning .....	96
12	Self-Perceived Ability of Students and Instructors with Distance Learning Technology Skills .....	98
13	Frequency and Percentage of Correct Responses by Students Regarding Knowledge About the ASEAN Community .....	101
14	Students Level of Knowledge about the ASEAN Community .....	102
15	Instructors' Rating on How Factors of the ASEAN Community Affect STOU Programs .....	104

16	Frequency and Percentage of Students and Instructors Toward Sources of Information where Participants Learned about the ASEAN Community .....	105
17	Importance of Factors by Students and Instructors when Considering to Study in the STOU Agricultural Extension Program .....	108
18	Level of Appropriateness of Delivery Channels by Students and Instructors for STOU Programs .....	110
19	Level of Satisfaction of Distance Learning Methods by Students and Instructors used in STOU Programs.....	112
20	Level of Agreement by Students and Instructors with the Curriculum for the STOU Agricultural Extension Program .....	114
21	Level of Appropriateness by Undergraduate Students and Instructors Toward Applicant Qualifications when Applying for the STOU Agricultural Extension Program (Bachelor's Degree) .....	118
22	Level of Appropriateness by Master's Degree Students and Instructors Toward Applicant Qualifications when Applying for the STOU Agricultural Extension and Development Program (Master's degree).....	120
23	Level of Appropriateness of Doctoral Students and Instructors Toward Applicant Qualifications when Applying for the STOU Agricultural Extension and Development Program (Doctoral Degree) .....	122
24	Level of Appropriateness of Undergraduate Students and Instructors Toward Level of Program Objectives for the STOU Agricultural Extension Program (Bachelor's Degree).....	123
25	Level of Appropriateness of Master's Degree Students and Instructors Toward Level of Program Objectives for the STOU Agricultural Extension and Development program (Master's Degree).....	124
26	Level of Appropriateness of Doctoral Students and Instructors Toward Level of Program Objectives for the STOU Agricultural Extension and Development Program (Doctoral Degree).....	126
27	Level of Appropriateness by Undergraduate Students and Instructors Toward the Program Structure for the STOU Agricultural Extension Program (Bachelor's Degree) when Participating in the ASEAN Community.....	128

28	Level of Appropriateness by Master's Degree Students and Instructors Toward the Program Structure for the STOU Agricultural Extension and Development Program (Master's Degree) when Participating in the ASEAN Community .....	130
29	Level of Appropriateness of Doctoral Students and Instructors Toward the Program Structure for the STOU Agricultural Extension and Development Program (Doctoral Degree) when Participating in the ASEAN Community.....	131
30	Students and Instructors Ratings Toward the Level of Adequacy about Components of STOU Learning System for the STOU Agricultural Extension Program and Agricultural Extension and Development Program when Participating in the ASEAN Community .....	135
31	Students and Instructors Ratings Toward the Level of Adequacy about Components of STOU Educational Services for the STOU Agricultural Extension Program and Agricultural Extension and Development Program when Participating in ASEAN Community.....	138
32	Grand Means of Students Toward Factors of Distance Learning Systems and Agricultural Extension and Development Programs .....	140
33	Comparison of Students' Attitude between Undergraduate Students and Graduate Students .....	142
34	Focus Group Questions and Outcomes .....	150
35	Summary of Socioeconomic Characteristics of Students .....	177
36	Summary of Attitudes of Undergraduate Students and Graduate Students Toward Factors of Distance Learning Systems and Agricultural Extension and Development Programs.....	181
37	Frequency and Percentage of Undergraduate Student's Ratings of Importance of Devices for distance learning ( $n = 251$ ).....	248
38	Frequency and Percentage of Master's Degree Student's Ratings of Importance of Devices for distance learning ( $n = 104$ ).....	249
39	Frequency and Percentage of Doctoral Student's Ratings of Importance of Devices for distance learning ( $n = 9$ ).....	250
40	Frequency and Percentage of Instructor's Ratings of Importance of Devices for distance learning ( $n = 10$ ) .....	251

41	Frequency and Percentage of Self-Perceived Ability of Undergraduate Students with Distance Learning Technology Skills ( $n = 251$ ) .....	252
42	Frequency and Percentage of Self-Perceived Ability of Master's Degree Students with Distance Learning Technology Skills ( $n = 104$ ) .....	253
43	Frequency and Percentage of Self-Perceived Ability of Doctoral Students with Distance Learning Technology Skills ( $n = 9$ ) .....	254
44	Frequency and Percentage of Self-Perceived Ability of Instructors with Distance Learning Technology Skills ( $n = 10$ ) .....	255
45	Frequency and Percentage of Importance of Factors by Undergraduate Students when Considering to Study in STOU Agricultural Extension Program ( $n = 251$ ) .....	256
46	Frequency and Percentage of Importance of Factors by Master's Degree Students when Considering to Study in STOU Agricultural Extension Program ( $n = 104$ ) .....	257
47	Frequency and Percentage of Importance of Factors by Doctoral Students when Considering to Study in STOU Agricultural Extension Program ( $n = 9$ ) .....	258
48	Frequency and Percentage of Importance of Factors by Instructors when students Considering to Study in STOU Agricultural Extension Program ( $n = 10$ ) .....	259
49	Frequency and Percentage of Level of Appropriateness of Delivery Channels by Undergraduate Students for STOU Agricultural Extension Program ( $n = 251$ ) .....	260
50	Frequency and Percentage of Level of Appropriateness of Delivery Channels by Master's Degree Students for STOU Agricultural Extension Program ( $n = 104$ ) .....	261
51	Frequency and Percentage of Level of Appropriateness of Delivery Channels by Doctoral Students for STOU Agricultural Extension Program ( $n = 9$ ) .....	262
52	Frequency and Percentage of Level of Appropriateness of Delivery Channels by Instructors for STOU Agricultural Extension Program ( $n = 10$ ) .....	263
53	Frequency and Percentage of Level of Satisfaction of Distance Learning Methods by Undergraduate Students for STOU Agricultural Extension Program ( $n = 251$ ) .....	264



54	Frequency and Percentage of Level of Satisfaction of Distance Learning Methods by Master's Degree Students for STOU Agricultural Extension Program ( $n = 104$ ) .....	265
55	Frequency and Percentage of Level of Satisfaction of Distance Learning Methods by Doctoral Students for STOU Agricultural Extension Program ( $n = 9$ ) .....	266
56	Frequency and Percentage of Level of Satisfaction of Distance Learning Methods by Instructors for STOU Agricultural Extension Program ( $n = 10$ ) .....	267
57	Frequency and Percentage of Level of Agreement by Undergraduate Students with the Curriculum for STOU Agricultural Extension Program ( $n = 251$ ) .....	268
58	Frequency and Percentage of Level of Agreement by Master's Degree Students with the Curriculum for STOU Agricultural Extension Program ( $n = 104$ ) .....	269
59	Frequency and Percentage of Level of Agreement by Doctoral Students with the Curriculum for STOU Agricultural Extension Program ( $n = 9$ ) .....	270
60	Frequency and Percentage of Level of Agreement by Instructors with the Curriculum for STOU Agricultural Extension Program ( $n = 10$ ) .....	271
61	Frequency and Percentage of Level of Appropriateness by Undergraduate Students Toward Applicant Qualifications when Applying for STOU Agricultural Extension Program (Bachelor's Degree) ( $n = 251$ ) .....	272
62	Frequency and Percentage of Level of Appropriateness by Instructors Toward Applicant Qualifications when Applying for STOU Agricultural Extension Program (Bachelor's Degree) ( $n = 10$ ) .....	273
63	Frequency and Percentage of Level of Appropriateness by Master's Degree Students Toward Applicant Qualifications when Applying for STOU Agricultural Extension Program (Master's Degree) ( $n = 104$ ) .....	274
64	Frequency and Percentage of Level of Appropriateness by Instructors Toward Applicant Qualifications when Applying for STOU Agricultural Extension Program (Master's Degree) ( $n = 10$ ) .....	275

65	Frequency and Percentage of Level of Appropriateness by Doctoral Students Toward Applicant Qualifications when Applying for STOU Agricultural Extension Program (Doctoral Degree) ( $n = 9$ ).....	276
66	Frequency and Percentage of Level of Appropriateness by Instructors Toward Applicant Qualifications when Applying for STOU Agricultural Extension Program (Doctoral Degree) ( $n = 10$ ) .....	277
67	Frequency and Percentage of Level of Appropriateness by Undergraduate Students Toward Program Objectives for STOU Agricultural Extension Program (Bachelor's Degree) ( $n = 251$ ) .....	278
68	Frequency and Percentage of Level of Appropriateness by Instructors Toward Program Objectives for STOU Agricultural Extension Program (Bachelor's Degree) ( $n = 10$ ).....	279
69	Frequency and Percentage of Level of Appropriateness by Graduate Students Toward Program Objectives for STOU Agricultural Extension Program (Master's degree) ( $n = 104$ ).....	280
70	Frequency and Percentage of Level of Appropriateness by Instructors Toward Program Objectives for STOU Agricultural Extension Program (Master's degree) ( $n = 10$ ).....	281
71	Frequency and Percentage of Level of Appropriateness by Doctoral Students Toward Program Objectives for STOU Agricultural Extension Program (Doctoral degree) ( $n = 9$ ).....	282
72	Frequency and Percentage of Level of Appropriateness by Instructors Toward Program Objectives for STOU Agricultural Extension Program (Doctoral degree) ( $n = 10$ ).....	283
73	Frequency and Percentage of Level of Appropriateness by Undergraduate Students Toward Bachelor's Degree Program Structure ( $n = 251$ ) .....	284
74	Frequency and Percentage of Level of Appropriateness by Instructors Toward Bachelor's Degree Program Structure ( $n = 10$ ) .....	285
75	Frequency and Percentage of Level of Appropriateness by Master's Degree Students Toward Master's Degree Program Structure ( $n = 104$ ) .....	286
76	Frequency and Percentage of Level of Appropriateness by Instructors Toward Master's Degree Program Structure ( $n = 10$ ).....	287

77	Frequency and Percentage of Level of Appropriateness by Doctoral Students Toward Doctoral Degree Program Structure ( $n = 9$ ).....	288
78	Frequency and Percentage of Level of Appropriateness by Instructors Toward Doctoral Degree Program Structure ( $n = 10$ ).....	289
79	Frequency and Percentage of Level of Adequacy about Components of the STOU Learning System for the STOU Agricultural Extension Program when Participating in ASEAN Community by Undergraduate Student ( $n = 251$ ).....	290
80	Frequency and Percentage of Level of Adequacy about Components of the STOU Learning System for the STOU Agricultural Extension Program when Participating in ASEAN Community by Master's Degree Student ( $n = 104$ ).....	291
81	Frequency and Percentage of Level of Adequacy about Components of the STOU Learning System for the STOU Agricultural Extension Program when Participating in ASEAN Community by Doctoral Student ( $n = 9$ ).....	292
82	Frequency and Percentage of Level of Adequacy about Components of the STOU Learning System for the STOU Agricultural Extension Program when Participating in ASEAN Community by Instructors ( $n = 10$ ).....	293
83	Frequency and Percentage of Level of Adequacy about Components of the STOU Educational Services for the STOU Agricultural Extension Program when Participating in ASEAN Community by Undergraduate Students ( $n = 251$ ).....	294
84	Frequency and Percentage of Level of Adequacy about Components of the STOU Educational Services for the STOU Agricultural Extension Program when Participating in ASEAN Community by Master's Degree Students ( $n = 104$ ).....	295
85	Frequency and Percentage of Level of Adequacy about Components of the STOU Educational Services for the STOU Agricultural Extension Program when Participating in ASEAN Community by Doctoral Students ( $n = 9$ ).....	296
86	Frequency and Percentage of Level of Adequacy about Components of the STOU Educational Services for the STOU Agricultural Extension Program when Participating in ASEAN Community by Instructors ( $n = 10$ ).....	297

## LIST OF FIGURES

1	Conceptual Framework of the Study.....	6
2	Ten Countries of ASEAN and Year Joining to ASEAN (Office of Civil Service Commission, 2012) .....	11
3	The Three Pillars of the ASEAN Community .....	13
4	Simple Distance Learning Model (Simpson, 2000) .....	39
5	Catalytically Assisted Reaction Model (Simpson, 2000).....	40
6	Academic Support and Non-Academic Support (Simpson, 2000) .....	40
7	Model for e-Learning in higher agricultural extension and education in Iran (Yaghoubi & Malekmohammadi, 2008).....	41
8	Model for Planning for Distance Learning (Picciano, 2001) .....	42
9	Three Basic Divisions of Adult Learning (Zemke & Zemke,1984) .....	45
10	Objectives and Characteristics of Extension Education (Chauhan, 2007).....	49
11	The Conclusion of Principles of Extension Education (Chauhan, 2007).....	50
12	Persuasion and Attitude Change Model (Zhang & Han, 2008) .....	54
13	Teaching Attitude Adjusting Model for College Teachers (Zhang and Han, 2008).....	54
14	Population and Sampling Methods .....	66
15	Instruments of the Study .....	67
16	Variables for Research Questions 1 to 4 (Descriptive Statistics).....	74
17	Variables for Research Question 5 (Comparison Statistics) .....	75
18	Data Analysis .....	76
19	Conceptual Framework of the Focus Group .....	79

20	Variables for Research Question 5 (Comparison Statistics) .....	141
21	The 4 Perspectives of Balanced Scorecard for STOU Program Improvement .....	186
22	The Model of Distance Education of Open University for Agricultural Extension Programs when Participating in the ASEAN Community .....	189

## CHAPTER I

### INTRODUCTION

The School of Agriculture and Cooperatives at Sukhothai Thammathirat Open University (STOU) supports Thai agricultural extension agents, farmers, and its students by promoting an understanding of agricultural changes within the country and in the world. Agricultural extension agents should have the skills required to analyze existing situations, solve problems, explain their opinions, and disseminate information to farmers. Furthermore, agricultural extension agents should use information and technologies appropriate to national policies in agricultural development and the changes taking place in domestic and world agriculture. At present, agricultural extension agents in agricultural extension organizations would like to have increased professional development opportunities to become more effective at their jobs. To serve the needs of these organizations and its people, the School of Agriculture and Cooperatives at STOU offers three programs in agricultural extension and development: a bachelor's degree (Agricultural Extension), a master's degree (Agricultural Extension and Development), and a doctoral degree (Agricultural Extension and Development).

In Thailand, distance learning is an educational channel that provides self-education for Thai people. Sukhothai Thammathirat Open University (STOU) is a Thai Open University that was established to expand higher education opportunities for its people, generated by the stimulus provided by the concept of life-long education

(Sukhothai Thammathirat Open University, 2012). The distance learning system was viewed as an appropriate means for an open university to expand higher educational opportunities. It would also permit the most effective use of the limited existing resources because distance education enables students to study independently by relying on various educational media without being required to enter a conventional classroom.

Furthermore, the distance learning system helps professionals obtain the requisite educational qualifications to improve their quality of life and work that forms a fundamental part of life-long education. After setting up a project to establish an Open University in 1975, Sukhothai Thammathirat Open University (STOU) was formally established by Royal Charter on September 5, 1978. It was the first Open University in Southeast Asia to use a distance learning system.

Thailand's agricultural extension system is directed by the Department of Agricultural Extension (DOA), belonging to the Ministry of Agriculture and Cooperatives. Thai agricultural extension agents provide information to farmers. Most agricultural extension agents graduated in other agricultural fields, such as forestry, agricultural management, or agribusiness. They need knowledge and skills in agricultural extension from Agricultural Extension and Development programs provided by Sukhothai Thammathirat Open University.

The kingdom of Thailand is an agricultural country that is one of the world's major agricultural exporters with a total area of 513,112 square kilometers. Because of social, political, and economic changes in the world, Thailand and four other countries in Southeast Asia (Indonesia, Malaysia, The Philippines, and Singapore) established the Association of Southeast Asian Nations (ASEAN) on August 8, 1967. Currently, ASEAN

has 10 member states that include five new members: Brunei Darussalam (joined on January 7, 1984), Vietnam (joined on July 28, 1995), Lao PDR and Myanmar (both joined on July 23, 1997), and Cambodia (joined on April 30, 1999).

ASEAN has specific aims and purposes, such as accelerating the economic growth, promoting regional peace, promoting active collaboration, providing assistance to each other, and promoting Southeast Asian Studies (www.asean.org, 2014). The ASEAN Community is comprised of three pillars: the ASEAN Political-Security Community (APSC), the ASEAN Economic Community (AEC), and the ASEAN Socio-Cultural Community (ASCC). Each pillar has its own blueprint. These documents form the roadmap for the ASEAN Community from 2009 to 2015. ASEAN members set their goals to establish the ASEAN education system in 2015.

An Open University is different from a conventional university, which recruits new students with formal academic qualification. In contrast, an Open University offers opportunities for everyone who wants to study in the higher education. In 2014, seven out of ten ASEAN countries offer open universities to their people who wish to study at the university level: Vietnam, Singapore, Indonesia, the Philippines, Malaysia, Myanmar, and Thailand. However, STOU is the only university that offers agricultural extension programs.

### **Statement of the Problem**

In 2007, the 10 South East Asian nations (ASEAN) agreed to implement the ASEAN Economic Community (AEC) by 2015, committing to the free movement of goods, services, foreign direct investment (FDI) and skilled labor, and freer flows of capital. Thailand will join ASEAN Economic Community (AEC) in 2015.



When joining the AEC, the four key characteristics changing in countries will be (1) a single market and production base, (2) a highly competitive economic region, (3) a region of equitable economic development, and (4) a region fully integrated into the global economy (www.aseansec.org, 2009). According to these characteristics, Thai farmers and agribusiness will have opportunities to expand their trade to the ASEAN market. On the other hand, agricultural products from ASEAN countries will be imported into Thai markets. Thus, Thai agricultural extension organizations and agricultural extension agents must develop their knowledge and skills to provide information about market and production improvements, highly competitive economics, equitable economic development, and full integration into the global economy. If ASEAN were a single entity, ASEAN would rank as the ninth largest economy in the world (World Economic Forum, 2012). Based on the changes through the ASEAN Community, Sukhothai Thammathirat Open University should improve agricultural extension and development programs to support students who need knowledge to apply in their work when participating in the ASEAN Community.

Because of changes in domestic and ASEAN agriculture through the AEC and the ASEAN Community, it is necessary to evaluate the present agricultural extension programs provided by school of agriculture and cooperatives and study the appropriateness of programs and distance learning systems for Sukhothai Thammathirat Open University to determine if agricultural programs for students who are agricultural extension agents, farmers, and participants interested in agriculture are appropriate. The readiness for change, the attitude of students and instructors toward the STOU Agricultural Extension and development programs, and the STOU distance learning

systems for participating in the ASEAN community are important factors that can be used for program improvement and to develop distance learning systems for Sukhothai Thammathirat Open University. In addition, studying about distance learning systems for agricultural extension and development programs will be useful for other Open Universities in ASEAN countries to seeing such distance programs could be applied to their universities as well.

### **Conceptual Framework**

For this study, the researcher assumes that there are four factors related to the attitude of Thai instructors and students toward a distance learning system for agricultural extension programs. These factors are socioeconomic status, ASEAN Community knowledge, STOU agricultural extension programs, and STOU distance learning systems (Figure 1).

Socioeconomic status (SES) is the measure of the economic and social position of the STOU instructors and students based on age, education, experience, income, and occupation. SES is a necessary factor to explain and predict instructors and students' attitude toward STOU agricultural extension programs and distance learning system.

Second, ASEAN community knowledge is an important factor for the study. This factor includes knowledge about ASEAN, its purposes, the main concepts about the ASEAN Community, and the potential impact on Thai agriculture.

The third factor is the STOU agricultural extension and development programs provided by the School of Agriculture and Cooperatives at Sukhothai Thammathirat Open University. The School offers three programs in agricultural extension and development: a bachelor's degree (Agricultural Extension), a master's degree

(Agricultural Extension and Development), and a doctoral degree (Agricultural Extension and Development). Thus, this factor is useful to examine and predict appropriate programs for participating in the ASEAN Community.

The last factor is the STOU distance learning system. Because of changes in information technologies, there are many communication technologies for distance learning systems, such as computers, the internet, and social media. The attitude of participants towards distance learning is an important factor to examine so as to predict the most appropriate distance learning system. In addition, the difference between the attitudes of undergraduate students and graduate students towards programs and distance learning system is also necessary to analyze for program improvement.

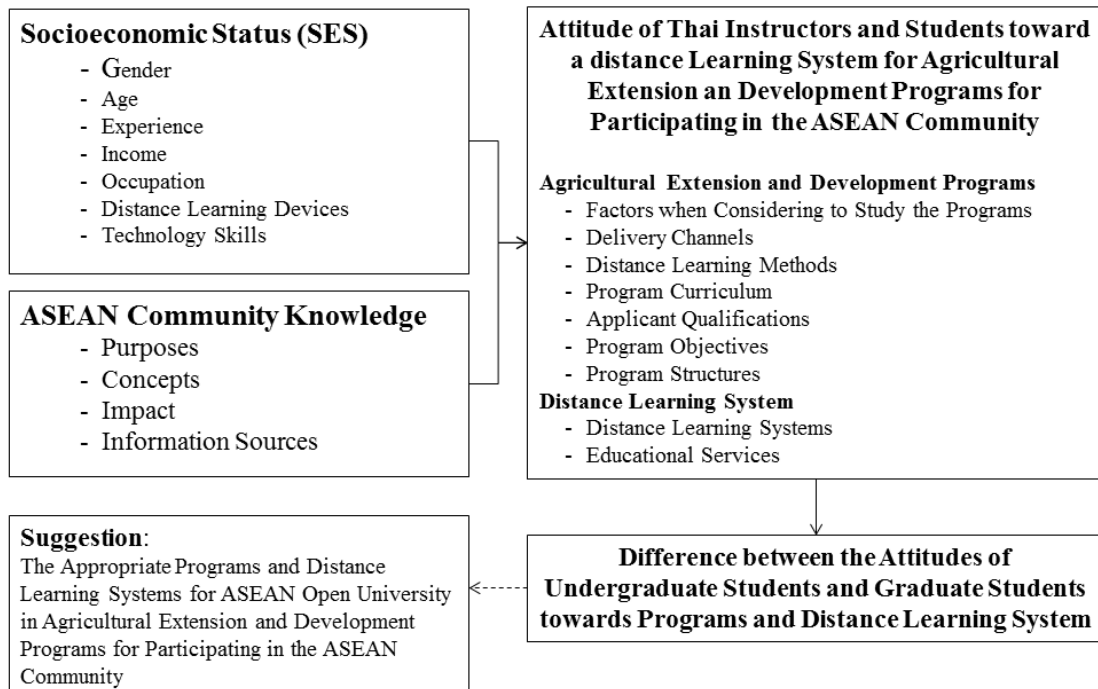


Figure 1 Conceptual Framework of the Study

## **Purpose and Research Questions**

The purpose of this study was to determine the attitudes of instructors and students in the Thai Open University toward the distance learning system for the Agricultural Extension program. To fulfill this purpose, the following research questions guided the study:

1. What was the socioeconomic status of instructors and students at Sukhothai Thammathirat Open University that offer Agricultural Extension and Development Programs?
2. Did students at Sukhothai Thammathirat Open University have accurate knowledge about the ASEAN Community?
3. What were the attitudes of undergraduate, graduate students, and instructors at Sukhothai Thammathirat Open University toward Agricultural Extension and Development programs?
4. What were the attitudes of undergraduate, graduate students, and instructors at Sukhothai Thammathirat Open University toward the use of distance learning systems for Agricultural Extension and Development programs?
5. Was there a difference between the attitudes of undergraduate students and graduate students towards the use of distance learning systems for Agricultural Extension and Development programs?

## Operational Definitions

The following definitions clarify the terms used in this study:

1. “Distance learning” refers to any formal approach to instruction in which the majority of the instruction occurs while educator and learner are not in each other’s physical presence (Mehrotra, Hollister, & McGahey, 2001).
2. “Agricultural extension and development programs” are curricula of study within the School of Agriculture and Cooperatives that provide degrees to undergraduate and graduate students (Sukhothai Thammathirat Open University, 2008, 2009, 2011).
3. “The Association of Southeast Asian Nations” (ASEAN) is a group of sovereign state representatives that meets to discuss economic and political matters concerning the Southeast Asian region. Members include Indonesia, Malaysia, Burma, Laos, Brunei, Thailand, Vietnam, Singapore, Cambodia and the Philippines. The group is responsible for stimulating investment in one another and creating trade agreements with non-member countries (<http://www.aseansec.org>, 2009).
4. “ASEAN Economic Community” (AEC) is the integration of ASEAN countries planned for 2015 with zero tariffs and free flow of workers between countries (<http://www.aseansec.org>, 2009).
5. “Agricultural extension participants” are undergraduate and graduate students, instructors, and educators in Agricultural Extension and Development Programs of Thai Open University.

## Limitations

For the purpose of this study, the following limitations were assumed:

1. The study only included undergraduate and graduate students and instructors at Sukhothai Thammathirat Open University; therefore, it will not be possible to generalize the results to any other population.
2. Samples of the study include current undergraduate and graduate students attending classes. Students that drop-out of classes are not included. Therefore, the results will not examine the attitudes of students who dropped out of classes.

## CHAPTER II

### REVIEW OF LITERATURE

This study was intended to determine the attitudes of instructors and students in the Thai Open University toward distance learning systems for Agricultural Extension and Development programs for participating in the ASEAN community. The review of literature is divided into 10 sections as follows: (1) ASEAN Community, (2) Open University, (3) Open Universities in ASEAN Countries, (4) Thai Open University, (5) Program Evaluation (6) Distance Learning Systems, (7) Adult Learning and the Learning Cycle, (8) Extension Education, (9) Demographic Characteristics of Distance Learning Students, and (10) Attitude of Students and Instructors toward Distance Learning.

#### **ASEAN Community**

##### **Association of Southeast Asian Nations**

The Association of Southeast Asian Nations (ASEAN) is a geo-political and economic organization of 10 countries located in Southeast Asia. On August 8, 1967, ASEAN was formed by Indonesia, Malaysia, the Philippines, Singapore, and Thailand. Since then, membership has expanded to include Brunei Darussalam, Myanmar, Cambodia, Laos, and Vietnam (Figure 2).

The 10 countries of ASEAN cover a land area of 4.5 million km<sup>2</sup>, which is 3% of the total land area of Earth, and has a population of approximately 567 million people,

which is 8.8% of the world's population (Office of Civil Service Commission, 2012). In 2010, the combined nominal GDP of ASEAN had grown to US \$1.8 trillion. If ASEAN were a single entity, it would rank as the ninth largest economy in the world.

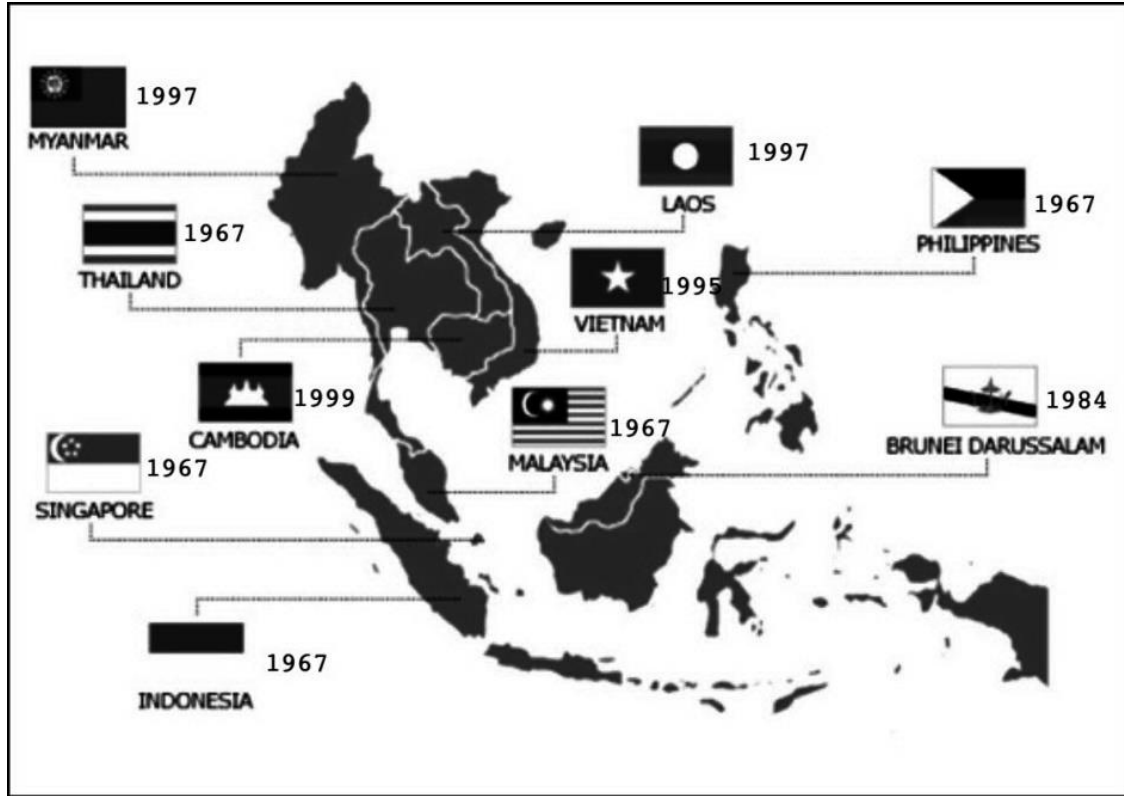


Figure 2 Ten Countries of ASEAN and Year Joining to ASEAN (Office of Civil Service Commission, 2012)

### AIM and Purpose of ASEAN

The official website of ASEAN states the aims and purposes of ASEAN are as follows:

1. To accelerate economic growth, social progress and cultural development in the region through joint endeavors in the spirit of equality and



partnership in order to strengthen the foundation for a prosperous and peaceful community of Southeast Asian Nations.

2. To promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries of the region and adherence to the principles of the United Nations Charter.
3. To promote active collaboration and mutual assistance on matters of common interest in the economic, social, cultural, technical, scientific and administrative fields.
4. To provide assistance to each other in the form of training and research facilities in the educational, professional, technical and administrative spheres.
5. To collaborate more effectively for the greater utilization of their agriculture and industries, the expansion of their trade, including the study of the problems of international commodity trade, the improvement of their transportation and communications facilities and the raising of the living standards of their peoples.
6. To promote Southeast Asian studies.
7. To maintain close and beneficial cooperation with existing international and regional organizations with similar aims and purposes, and explore all avenues for even closer cooperation among themselves

(<http://www.asean.org>, 2014).

In addition, at the 12th ASEAN Summit in January 2007, leaders of the 10 countries affirmed their strong commitment to accelerate the establishment of an ASEAN

Community by 2015 and signed the Cebu Declaration on the Acceleration of the Establishment of an ASEAN Community by 2015. The ASEAN Community is comprised of three pillars (Figure 3), namely the ASEAN Political-Security Community (APSC), the ASEAN Socio-Cultural Community (ASCC), and the ASEAN Economic Community (AEC) (www.asean.org, 2014).

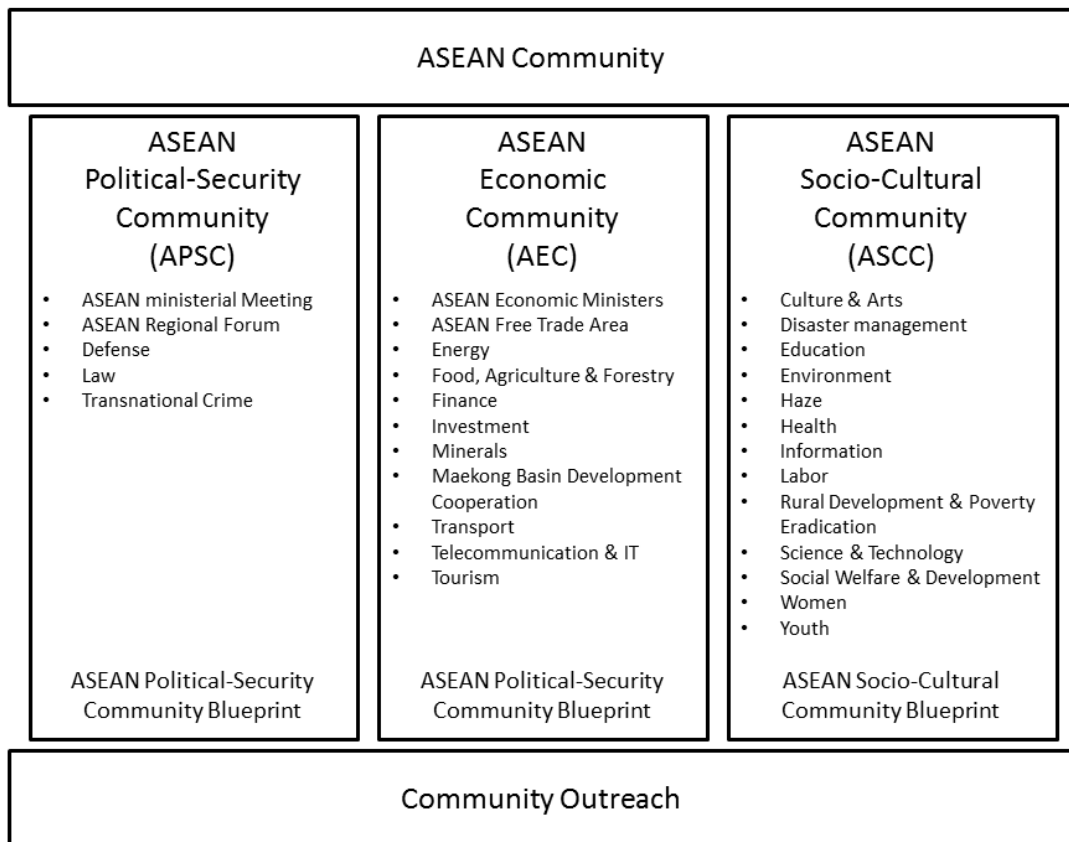


Figure 3 The Three Pillars of the ASEAN Community

*ASEAN Political-Security Community*

The ASEAN Political-Security Community (APSC) is one of the pillars of ASEAN Community from ASEAN Vision 2020. The blueprint describes the APSC in

three characteristics, namely: (1) Rules-based Community of shared values and norms, (2) Cohesive, Peaceful, Stable and Resilient Region with shared responsibility for comprehensive security, and (3) Dynamic and Outward-looking Region in an increasingly integrated and interdependent world (Villanueva, 2014). In addition, the blueprint of the ASEAN Political-Security Community asserted that the important characteristics and elements of ASEAN Political-Security Community are (1) bringing the ASEAN's political and security cooperation to a higher plane; (2) promoting political development in adherence to the principles of democracy, rule of law and good governance, and promotion and protection of human rights; and (3) strengthening the relations between ASEAN and its dialogue partners and other countries, and comprehensive approach to security (traditional & non-traditional security), renunciation of the use of force, peaceful settlement of disputes (www.asean.org, 2014).

#### *ASEAN Socio-Cultural Community*

The ASEAN Socio-Cultural Community (ASCC) aims to contribute to realizing an ASEAN Community that is people-oriented and socially responsible with a view to achieving enduring solidarity and unity among the peoples and Member States of ASEAN. It seeks to forge a common identity and build a caring and sharing society, which is inclusive and where the well-being, livelihood, and welfare of the peoples are enhanced. ASCC is focused on nurturing the human, cultural and natural resources for sustained development in a harmonious and people-oriented ASEAN (www.asean.org, 2014).

### *ASEAN Economic Community*

The official website of ASEAN explains that the ASEAN Economic Community (AEC) shall be the goal of regional economic integration by 2015, and AEC envisages the following key characteristics: (1) a single market and production base, (2) a highly competitive economic region, (3) a region of equitable economic development, and (4) a region fully integrated into the global economy (www.asean.org, 2014).

The AEC areas of cooperation include human resources development and capacity building. In short, the AEC can transform ASEAN into a region with free movement of goods, services, investment, skilled labor, and free flow of capital.

For Thailand, the office of Civil Service Commission (2012) asserted that after joining the AEC, Thailand would get benefits in three areas: (1) exportation, (2) commercial chance, and (3) international investment. However, some agricultural products, such as rubber, coconut, coffee, and palm, would be seriously impacted because these products would be imported from other countries with lower cost.

### **Open University**

Wedemeyer (1975) enunciated the guiding principle that characterizes the Open University concept:

Learning is the act or process of acquiring knowledge or skill. When the adjective “open” is used to qualify “learning” we have put a name to a process of learning that is not enclosed or encumbered by barriers, that is accessible and available, not confined or concealed and that implies a continuum of access and opportunity ....The ideal concept of open education would take the form of education permanently open to people at all levels, cradle-to-grave (Shale, 1987).

An Open University is different from a conventional university that recruits new students with formal academic qualification. Open Universities have specific characteristics. Shale (1987) gave examples of the 7 dimensions of openness in Open Universities:

1. The provision of more “place” at the university level.
2. The usual entrance requirements for admission to university may be eased or even waived altogether.
3. The constraints of having to be in a particular place at a particular time may be alleviated or lifted completely.
4. "Substantial" advance credit may be awarded for university level credit study undertaken elsewhere.
5. Some credit may be granted for non-formal learning (sometimes referred to as experiential learning).
6. Credits earned through study elsewhere may be "banked" and perhaps combined with non-formal credits or university credits currently being acquired, to be applied toward a degree at the host university.
7. Students may study independently and at a pace of their own choosing.

In addition, Keegan and Ramble (1982) defined the typology of an Open University in 4 types:

1. Type A: Autonomous, central controlled distance teaching universities. These universities teach solely at a distance and are autonomous. They set their own curricula, examine students, and award degrees.

2. Type B: Autonomous, decentralized distance teaching universities. These universities teach solely at a distance. They are similar to the autonomous, centrally controlled distance teaching universities (DTUs), but delivery of instructional programs and student support systems are handled through associated, decentralized centers.
3. Type C: Essentially autonomous distance universities operating within a federated university structure encompassing both conventional campuses and a distance teaching unit.
4. Type D: External studies universities in which the distance teaching function is incorporated in some way with a conventional campus-based teaching function. The kind and degree of their integration may vary from the extensive integration found in so-called “multi-mode” universities (Shale, 1987).

Seubsman, Yiengprugsawan, Harley, Sleigh, et al. (2012) stated that Distance Learning Open University (DLOU) was an educational institute that creates higher education opportunities for adults of all ages. Beneficiaries include persons unable to attend full time on campus because of an incomplete or a low quality high school education.

In conclusion, an Open University is a university that is open to people without formal academic qualification. An Open University also offers a distance learning system using educational technology and media for students.

## **Open Universities in ASEAN Countries**

The concept of the Open University evolved from the convergence of three major postwar educational trends. The first concern was development in the provision for adult education, the second was the growth of educational broadcasting, and the third was the political objective of promoting the spread of egalitarianism in education (Perry, 1976). The main concept of the Open University is to clear the gaps of adult learning that offer opportunities to the adult who wish to embark upon vocational courses at the higher education level. In an ASEAN country, there are some countries that established their Open University to offer higher education for their people. Such countries included Vietnam, Singapore, Indonesia, the Philippines, Malaysia, Myanmar, and Thailand.

### **Open University in Vietnam**

In 1993, the Vietnam government established two Open Universities. Hanoi Open University is in the North and Ho Chi Minh City Open University is in the South.

Hanoi Open University (HOU) was founded on November 3, 1993 to establish higher education training and research with different forms of training (distant and face-to-face) to meet the diversified learning needs of the society, contributing to increasing the scientific and technical potential of the nation. Hanoi Open University is an organization operating within the system of state universities under the direct control of the Ministry of Education and Training and is subject to all statutes of a public university.

Academic degrees and programs provided by Hanoi Open University are Bachelor's degrees in Economics, Tourism, English, Design, Information Technology, Biotechnology, Electronics-telecommunication, and Law; Associate Bachelor degrees in Economics, and English; Certificates for short-training courses in Economics, Fashion

Design, Informatics, Hotel Management, Tourist Guidance, English, French, and Chinese. Hanoi Open University has centers and facilities to support distance learning, such as the Center for Distance Education Development, the Center for International Training Co-operation, the Center for Audio-Visual Material Production, and local study centers for distance students in 20 provinces and cities throughout the country. In addition, Hanoi Open University has developed three generation-technologies: print-based self-learning materials, audio/video products, and modern ICT- based learning such as e-Learning (Hanoi Open University, 2014).

Ho Chi Minh City Open University (HCMCOU) was founded on July 26, 1993 to offer the open way of training to activate the justified directions of the Communist Party and Government in socializing education and multiplying the types of training. HCMCOU is an institution of higher education providing a variety of programs for undergraduates and postgraduates ranging from distance learning, on-site, learning at satellite academic centers, which aim at meeting various learning needs of society and contribute to the enlargement of the human resources of the country (Ho Chi Minh City Open University, 2010).

The programs provided by Ho Chi Minh City Open University are Business Administration, Economics & Law, Finance – Banking, Accounting – Auditing, Biotechnology, Civil & Electrical Engineering, Computer Science, Foreign Languages, and Sociology – Social Work – Southeast Asian Studies. There are about 40,000 students taking distance courses and 25,000 taking full-time or part-time face-to-face courses. The technologies and teaching media are printed material (main medium), CD, VCD, CD-ROM, radio and television broadcasting, and web-based (Viet & Vuong, 2009). In



addition, Viet and Vuong conclude that open and distance learning in Vietnam has continued to make an important contribution to the education and training provision in particular, and sustainable development of the country in general. The reasons for the contribution made by open and distance learning (ODL) in general and by the two Open Universities in particular to the development of the country are:

1. The wide range of learning needs caused by the transition to a market economy. Many people need education for employment, adaptability with job requirement; others strive for advancement or change of occupation. The system of traditional institutions could not meet the demand for human resources and the needs for life-long learning.
2. Open universities were established as an initiative in the renovation of ODL. The key priorities have been defined as increasing quality and improving the curriculum, training and teaching methodologies to enhance learning.
3. The government policy has been the most important factor in the development. In line with the renovation in socio-economy policy, the government has released a series of directions and decisions to improve the education system. In many official documents, priorities have been given to ODL development (Ho Chi Minh City Open University, 2010).

### **Open University in Singapore**

There are four conventional universities in Singapore: the National University of Singapore, Nanyang Technological University, Singapore Management University, and Singapore University of Technology and Design. However, working adults can enroll in

the Open University Degree Program run by the Singapore Institute of Management (SIM) (Embassy of the Republic of Singapore, 2012).

The Singapore Institute of Management (SIM) is the leading provider of higher education and professional training (Bachelor, Diploma, and Postgraduate) in Singapore. It was founded in 1964 as a not-for-profit management institute. SIM University accomplishes its mission of education and lifelong learning through three distinct educational arms (SIM University, SIM Global Education, and SIM Professional Development), each catering to a specific market segment of learners.

SIM University is Singapore's only private university and its mission is to create excellence in lifelong education through a uniquely-designed learning experience that equips learners for a better future. Home to more than 13,000 students, SIM University adopts a flexible and practice-focused learning approach and offers more than 50 academic programs in various disciplines. Eligible students taking SIM University's undergraduate programs enjoy government subsidies of up to 55% of tuition fees and access to government bursaries, tuition fee and study loans. SIM University is a not-for-profit university and the SIM University Education Fund has been a Singapore 'Institution of a Public Character' (IPC) since September 2005.

SIM students can choose from a wide range of high-quality overseas degree programs made available through SIM's partnership with established international universities and institutions from the United Kingdom, United States, Australia, and Switzerland. Most are full-time students, but SIM Global Education also offers part-time programs that cater to working adults (Singapore Institute of Management, 2014).

The Singapore Institute of Management collaborates with university partners from Australia, Switzerland, the UK, and the US to provide programs that are taught by highly qualified and dedicated local and international faculty. The programs provided by the Singapore Institute of Management are Arts & Social Sciences, Business Programs, Information Technology & Computer Science, Nursing, and Specialty Programs such as Engineering and Business, and Logistics and Supply Chain & Logistics Management (Singapore Institute of Management, 2014).

### **Open University in Indonesia**

Universitas Terbuka (UT) is the Open University in Indonesia inaugurated on September 4, 1984. The purposes of UT are to (1) provide expansive opportunity for Indonesian citizens and foreigners, wherever their place of residence, to attain higher education; (2) provide higher education services for those who, because of their work or due to other reasons, are not able to further their studies in face-to-face prominent higher education institutions; and (3) develop academic and professional programs so far unaddressed by other universities that meet the genuine needs of national development.

Universitas Terbuka has applied a distance and open learning system by using media that is printed and non-printed (audio/video, computer/Internet, radio and television broadcasts). UT students are expected to learn independently. This self-learning method means that a student learns on his/her own initiative. UT provides learning materials specifically designed for independent learning. Aside from using materials provided by UT, students can also take the initiative to make use of the library, take tutorials (whether face-to-face or through the Internet), use radio or television broadcasts, or use computer-assisted learning materials and audio/video programs. When

faced with difficulty in learning, students can request for information or tutorial assistance to the local Learning Program Unit of the Distance Learning Open University.

UT has four programs and one postgraduate program offering more than 30 study programs with a variety of levels comprising: Master's Program, Undergraduate Program, Diploma Program, and Certificates. The four programs include: Economy, Mathematics and Natural Sciences, Education and Teaching Training, and Social and Political Sciences. In addition, UT also provides an ASEAN program. UT states the importance of the ASEAN program in its university website as:

The ASEAN Countries have a common dream of realizing the ASEAN Community by 2015. Covering a population of 600 million, The ASEAN Community has a tremendous potential and power to work together for prosperity and peaceful co-existence. The knowledge and understanding of the ASEAN communities by the ASEANS themselves and other people who are interested in the cultural, socio-political and economical dynamics of ASEAN will benefit and facilitate the integration process, as well as in integrating ASEAN with the rest of the world. (<http://aseanstudies.ut.ac.id>, 2014)

### **Open University in the Philippines**

University of the Philippines Open University (UPOU) was established on February 23, 1995. The mission of UPOU is to provide Filipinos everywhere access to quality higher education through innovative methods of teaching and learning that are designed to be responsive to their needs as well as to national development priorities (University of the Philippines Open University, n.d.).

UPOU provides distance education with 3 undergraduate programs, 10 post-baccalaureate certificate and diploma programs, 13 master's programs, 2 doctoral programs, and 11 non-formal courses. UPOU has a network of 8 learning centers and 20 testing centers in the country and abroad. This, coupled with the university's ability to harness a wide range of digital technologies in education, has enabled them to build a global community of mostly Filipino learners in more than 40 countries.

UPOU employs the distance education model of teaching and learning. The key features of distance education as practiced at UPOU are: (1) Students and teachers are physically separated from each other. They do not meet face-to-face in a physical classroom; (2) Students undertake guided independent study of carefully selected as well as specially designed learning materials in various media – print, video, and multimedia; (3) Interaction between teachers and students, and among students, takes place through online tutorials in a virtual classroom. Other forms of communication between teacher and student are email, text, and teleconferencing; and (4) Final examinations are conducted either face-to-face at designated learning centers or online. All examinations are proctored. There are three schools in UPOU: the School of Education, the School of Information and Communication Studies, and the School of Management and Development Studies. (University of the Philippines Open University, 2014)

### **Open University in Malaysia**

Open University Malaysia (OUM) was established on August 10, 2000, followed by its official launch on August 26, 2002, with the motto "University for all." The schools of OUM are the School of Business and Management, the School of Education and Languages, the School of Information Technology and Multimedia Communication,

the School of Science and Technology, and the School of Nursing and Allied Health Sciences. The main campus of OUM is in Kuala Lumpur, and there are 32 learning centers throughout Malaysia (Open University Malaysia, 2014).

The university employs a blended learning approach that involves self-managed learning, face-to-face Tutorials, and online learning. Modules are meticulously developed to support self-managed learning. The development process involves inputs from subject-matter experts who are academics at OUM or other institutions of higher learning in Malaysia. To supplement the modules, various learning tools are produced in-house (Open University Malaysia, 2012).

Wawasan Open University (WOU) is one of Malaysia's private institutions of higher learning dedicated to adult learners who seek to pursue tertiary qualifications for professional development and self-enrichment. Established in 2006, WOU uses flexible approaches to make higher education accessible to all – anytime, anywhere – and to create a lifelong learning community for aspiring individuals regardless of their previous educational, ethnic or socioeconomic background. Through its unique open distance learning (ODL) model, self-paced learning and flexible study pathway, WOU enables working adults to pursue their educational dreams without much disruption to their professional and personal commitments. As a result, more than 12,000 working professionals in Malaysia have learning opportunities at WOU while they continue in their jobs. Under the ODL mode of learning, WOU offers 44 programs ranging from the sub-degree to postgraduate levels in the fields of business, technology, education and liberal studies, including four MBA programs. WOU produced its first group of MBA

graduates in 2010, and its first group of Bachelor's degree students in 2011 (Wawasan Open University, 2013).

### **Open University in Myanmar**

Yangon University of Distance Education (YUDE) was officially established in 1992. It was initiated as University Correspondence Courses (UCC) in 1975-76 with the aim of fulfilling the needs of people who wanted to pursue higher education, but were unable to attend conventional universities or wanted to study independently without having to attend those conventional universities.

As the changes in social and economic conditions have taken place in the country, following major policy changes since 1988, it became necessary to upgrade the University Correspondence Courses by reorganizing and restructuring the existing facilities and establishment and raising the efficiency of the institution. Changes in government policies, especially with the adoption of market-based economic system, gave rise to the requirement of the new pattern of employment and manpower attributed to education and training which are also to be in line with the changes occurring in the socioeconomic settings. Due to the guidance of the Myanmar Education Committee and its resolution, the University of Distance Education emerged to provide greater accessibility to education and training for human resources development on July 9, 1992.

Yangon University of Distance Education has 16 regional centers throughout Myanmar. YUDE offers 18 Bachelor programs and 2 online programs for a Bachelor of Arts and Diploma in Law. The YUDE adopts a multimedia approach to instruction whereby the instructional system is carried out as follows:

- Self-instructional print materials in package form of text books and study guide books are handed over to the students at the beginning of the academic year.
- As part of the package, audio cassettes are also delivered to the students.
- Audio and video programs are broadcast to facilitate learning. These broadcast lessons are also made available in the form of audio and video cassette tapes.
- For courses in science, arrangements are made to enable students to undertake practicals and attend tutorial sessions at Regional Learning Centers on weekends.
- Learning Centers for non-science students are established at selected high schools. Provisions for listening to audio cassette tapes, watching video cassette tapes, studying with the help of CD-ROMs and access to computer network facilities are made available at the Learning Centers. University teachers assigned to the Learning Centers conduct face-to-face classes and attend to the needs of students through counseling (Yangon University of Distance Education, 2013).

### **Thai Open University**

UNESCO (2002) asserted that open and distance learning in Thailand began in 1933 with the establishment of the University of Moral and Political Science. By the year 2000, more open and distance learning institutions had emerged including Ramkhamhaeng University (RU), Sukhothai Thammathirat Open University (STOU), the



Department of Non-Formal Education (DNFE), Klai Kangwon Royal Satellite Project (KKRSP), the Borderless Education Project (BEP), and Suranaree University of Technology (SUT).

In collaboration with international agencies, all open and distance learning programs are provided nation-wide, are self-funded (except SUT) and, depending on the institution and program pursued, allow one to study at home, on campus, or a mixture of the two. Given Thailand's comprehensive communications infrastructure, its open and distance learning utilizes current technologies for instructional delivery. Most open and distance learning institutions have a multimedia instructional delivery system, and the existence of Internet systems has made it possible for institutions like SUT to use on-screen interactive and web-based internet media as core instructional delivery systems supplemented by print, audio-visual media and telecommunications. Most open and distance learning programs are in the area of social sciences, except for those offered at STOU.

Recognizing open and distance learning's potential for cost-effectiveness, mass enrollment, and the provision of education and training without demanding the movement of employees, Thailand currently considers open and distance learning as a most economical and effective way to educate and train. Priority is currently given to open and distance learning systems design, the performance of instructors and learners, effective assessment procedures, and ICTs (UNESCO, 2002).

### **Sukhothai Thammathirat Open University**

Sukhothai Thammathirat Open University (STOU) is an Open University in Thailand that was established by the Royal Charter in 1978 as the 11th state university

and the first Open University in Southeast Asia. The distance education system adopted by STOU was viewed as the most practical method to bring about the democratization of higher education, provided equal access to education for people throughout Thailand, and made the concept of lifelong learning a practical reality. It provides opportunities not only to learners, but also to people of all ages and backgrounds, many of whom are already employed in the workforce, to continue their education for various reasons, the most common being to improve their knowledge and skills for career promotion or shift to a better job, so as to attain a better quality of life.

In December 1980, after two years of preparation, STOU opened its doors to the first group of learners. Approximately 82,000 learners enrolled in Bachelor's degree programs in two schools of study, Educational Studies and Management Science. Since then, STOU has developed into one of the world's "mega" universities with about 200,000 learners (about 85% are working adults) currently enrolled in Master's, Bachelor, Diploma, Certificate, and continuing education programs. In 2012, STOU offered more than 300 courses in 12 schools of study with a strong emphasis in the social sciences.

STOU uses distance education methods to transfer knowledge and skills to learners by providing self-instructional packages sent by mail, which are comprised of textbooks, workbooks and study guides. Depending on the nature of the course, the package may also include other media such as audio tapes and VCD. In recent years, in accordance with the "STOU Plan 2000," the institution has moved from its primarily print-based model to a dual track of print-based and computer-based media. By leveraging on Information Communication Technology, STOU has embarked on e-

Learning, e-library, webcasting, audio and video on demand, video conferencing and satellite broadcasting (Sukhothai Thammathirat Open University, 2014).

Sukhothai Thammathirat Open University teaches through a distance learning system that includes convergence of many different types of media, making higher education accessible, affordable, and serviceable to all. The educational multimedia provided for students are textbooks and workbooks, radio programs, television programs, media on demand, multimedia e-Learning and e-training, mobile learning, e-Tutorials, and face to face Tutorials (Sukhothai Thammathirat Open University, 2012).

### **The STOU Educational Multimedia**

The primary media for instruction in each course include:

1. Textbooks – specially designed for self-guided study, and corresponding self-evaluating workbooks. Written by STOU faculty members and outside experts, the textbooks contain complete course content while workbooks include working spaces, exercises, and tests for self-evaluation. Printed textbooks and workbooks, together with course syllabi and study guidelines, are sent to students by postal service.
2. Radio programs – designed to enrich course content. Fifteen radio programs are produced per course in a variety of formats, such as interview, documentary, and drama. They are broadcast from Bangkok via STOU's C-band satellite broadcast to eleven network stations throughout the country.
3. Television programs – STOU use TV dramas, discussions, interviews, and documentary programs to supplement its academic courses. The

production is done by STOU's Educational Broadcasting Production Center and broadcast via 4 TV channels including STOU Channel.

4. Media on Demand – STOU's website ([www.stou.ac.th](http://www.stou.ac.th)) stores an archive of broadcasted radio and television programs in addition to other supplementary audios and videos, enabling students' accessibility to all available instructional materials at any time. DVDs, CDs, and multimedia lectures are designed for subjects that require extra description, demonstration or illustration.
5. E-Learning and e-Training – STOU provides lessons and training sessions on the internet for selected undergraduate and graduate programs. The course syllabus, class calendar, and course materials are put online. Assignments and evaluation can also be done through this system, which allows interaction between instructors and students.
6. M-Learning – STOU converts selected instructional materials to a small file size to encourage learning via mobile phones. Students are allowed to download all content that is available. The university is also striving to provide swift interaction between instructors and students through such devices.
7. E-Tutorials – Similar to E-Learning, STOU provides distance tutorials through the internet. This system allows learners to acquire up-to-date academic content and information directly from instructors. Web boards are utilized to facilitate additional interaction between instructors and learners.

8. Face-to-Face Tutorials – STOU students are sometimes asked to meet in conventional classrooms, which provide opportunities for crucial face-to-face interaction and individualized attention during the self-instructional course block. Tutorials are held at provincial study centers, while pre-grad practical experience programs are held at STOU main campus.

### **STOU Agricultural Extension and Development Programs through Distance Learning**

The School of Agriculture and Cooperatives organizes Agricultural Extension and Development Programs into 3 levels: Bachelor's Degree program, Master's Degree program, and Doctoral Degree program (Sukhothai Thammathirat Open University, 2014).

#### *Bachelor's degree of agricultural extension program*

A Bachelor's degree is ordinarily awarded after completion of a four-year program. For those already possessing a certificate, diploma, or Bachelor's degree in another discipline, the university offers a bachelor's degree program that can be completed in 2 - 3 years. The courses provided for Bachelor's degree in Agricultural Extension are as following:

- English for Communication (6 credits)
- Science, Technology and Environment for Life (6 credits)
- Thai Studies (6 credits)
- Thailand and World Community (6 credits)
- Thai for Communication (6 credits)
- Farm Management (6 credits)

- Fundamental of Agricultural Resources Management and Environment (6 credits)
- Economic Crops (6 credits)
- Animal Production (6 credits)
- Soil, Water and Fertilizers (6 credits)
- Fundamentals of Agricultural Extension (6 credits)
- Agricultural Community Development (6 credits)
- Principles of Administration in Agricultural Extension (6 credits)
- Knowledge Management for Agricultural Extension (6 credits)
- Integrated Agricultural System Management (6 credits)
- Information and Communication Media in Agricultural Extension (6 credits)
- Leadership, Human Relation and Psychology for Farmers (6 credits)
- Development of Group, Institution, and Organization in Agriculture (6 credits)
- Research in Agricultural Extension (6 credits)
- Professional Experience in Agricultural Extension (6 credits)
- Ornamental Plants in Landscaping (6 credits)
- Agro-Tourism Management (6 credits)
- Animal Production for Recreation and Economics (6 credits)
- Introduction to Crop Pests (6 credits)
- Principles of Animal Nutrition and Feeds (6 credits)

- Crop Commodity Management (6 credits)
- Cereal and Forage Crop Production Management (6 credits)
- Industrial Crop Production Management (6 credits)
- Flowering and Ornamental Plant Production Management (6 credits)
- Fruit and Vegetable Production Management (6 credits)
- Fundamentals of Agribusiness (6 credits)

*Master's degree of agricultural extension and development program*

A Master's degree program requires a minimum of two years of study. Applicants must hold a Bachelor's degree in a relevant subject or hold a Bachelor's degree in an unrelated subject and have relevant professional experience. The courses provided for the Master's degree in Agricultural Extension and Development are as follows:

- Agricultural Extension for Development (6 credits)
- Thai Society and Management in Agricultural Extension and Development (6 credits)
- International Agricultural Extension and Development (6 credits)
- Research and Statistics for Agricultural Extension and Development (6 credits)
- Resource Management for Agricultural Extension and Development (6 credits)
- Communication in Agricultural Extension and Development (6 credits)
- Organization for Agricultural Extension and Development (6 credits)
- Independent Study (6 credits)

- Thesis (12 credits)
- Graduate Professional Experience in Agricultural Extension and Development (0 credits)

*Doctoral degree of agricultural extension and development Program*

A Doctoral degree program requires a minimum of three years of study.

Applicants must hold a Master's degree in a relevant subject or hold a Master's degree in an unrelated subject and have relevant professional experience. The courses provided for the Doctor of Philosophy in Agricultural Extension and Development are as follows:

- Advanced Agricultural Extension and Development (6 credits)
- Advanced Research in Agricultural Extension and Development (6 credits)
- Advanced Statistics in Agricultural Extension and Development Research (6 credits)
- Advanced Seminar in Agricultural Extension and Development (6 credits)
- Dissertation (36 credits)
- Doctoral Professional Experience in Agricultural Extension and Development (0 credits)

### **Program Evaluation**

Evaluation is an essential tool for making development programs successful. The United Nations Office on Drugs and Crime (UNODC) (2015) gave a definition of evaluation as a systematic and objective assessment of an ongoing or completed project, program or policy, its design, implementation and results. The aim is to determine the



relevance and fulfillment of objectives, efficiency, effectiveness, impact and sustainability.

Rossi, Lipsey, and Freeman (2004) stated that program evaluation is the use of social research methods to systematically investigate the effectiveness of social intervention programs. It draws on the techniques and concepts of social science disciplines and is intended to be useful for improving programs and informing social action aimed at ameliorating social problems. In addition, Rossi, et al. (2004) asserted the five general areas of concern in evaluation are as follows:

1. The need for service (needs assessment); a need is basically a gap between the actual state of affairs and a desired state of affairs. Questions to assess the need are questions about the social conditions surrounding a program and the need for program services.
2. The conceptualization and design of the program (assessment of the program theory); assessment of program theory involves determining the program theory. Questions to assess the program theory are questions about the conceptualization or design of the program.
3. The implementation of a program (assessment of program process or process evaluation); Questions to assess the program process are questions about program operations and service delivery.
4. The program's outcomes (impact assessment); an impact assessment, sometimes called an impact evaluation or outcome evaluation, gauges the extent to which a program produces the intended improvements in the social conditions it addresses. Questions to assess the impact are questions

about whether the program has an impact and results in the desired outcomes.

5. The program's efficiency (efficiency assessment); an efficiency assessment takes account of the relationship between a program's costs and its effectiveness. Questions to assess the efficiency are questions about program benefits, costs, and efficiency.

### **Distance Learning Systems**

Bower and Hardy (2004) asserted that the earliest record of distance learning comes from an advertisement in *the Boston Gazette* on March 20, 1728, in which a shorthand teacher offered to send weekly lessons to prospective students who lived in the country and wished to learn shorthand. However, the first evidence of an established institution of higher education offering distance education came in 1833; there was an advertisement from a Swedish university extending the opportunity to study composition via the post (Bower & Hardy, 2004).

Because of the Information Technology revolution in early 1970's, there is an explosive growth in Open and Distance learning worldwide. There are nearly 30 Open Universities operating in First and Third World environments and countless other organizations working at the non-higher education level (Simpson, 2000).

The definitions of distance learning are numerous and change as the concept evolves. Picciano (2001) states that distance education, distance teaching, distance learning, open learning, distributed learning, asynchronous learning, telelearning, and flexible learning are used to describe an education process in which the teacher and learners are physically separated.

The term distance learning can also refer to a wide variety of instructional delivery processes that include correspondence courses, broadcast television, and computer-mediated instruction. In addition, Desmond Keegan explains five basic requirements of distance learning. (as cited in Picciano, 2001):

1. Distance learning is the quasi-separation of teacher and learner throughout the period of the learning process.
2. Distance learning is the influence of an educational organization for the planning of courses of study and preparation of materials, and for providing academic and student support services.
3. Distance learning is the use of technology and media – print, video, audio, or computer – to carry the content of the course and to provide mechanisms for interaction.
4. Distance learning is the provision of two-way interaction and communication.
5. Distance learning is the quasi-permanent absence of a learning group so that students are taught more as individuals than as groups.

In conclusion, a distance learning system is a non-class learning system in which instructors and students are far apart. Educational instruction multimedia is used in their learning, such as printed materials, audio, video, or computer, through communication channels, such as post mail, radio, television, or the internet. However, students can meet their instructors sometimes for asking questions or tutorial.

## Models of Distance Learning and Student Support

There are many structural models of distance learning. Simpson (2000) stated two models of distance learning: the simple distance learning model and catalytically assisted reaction model.

The simple distance learning model (Figure 4) envisages a straight transfer of material between institution and student and may be varied with some feedback from student to institution. This model is a traditional method that served for distance learning students, but there are many students who cannot succeed and drop out from the institution. The activities will help the students succeed at their educational aims and reduce students' drop-out rate.

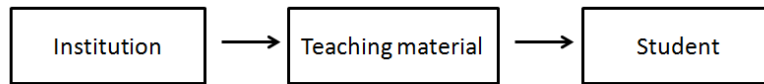


Figure 4 Simple Distance Learning Model (Simpson, 2000)

The catalytically assisted reaction model (Figure 5) is the most common model that enters the students support activities as a second element to the equation. Student support activities consist of all activities beyond the production and delivery of course materials that assist in the progress of students in their studies (Simpson, 2000). Simpson suggested that student support falls into two broad areas. The first is academic support, or tutorial support, that consists of cognitive skills, knowledge, and learning skills. The second is non-academic support that consists of advising, assessment, advocacy, agitation, action, and administration (Figure 6).

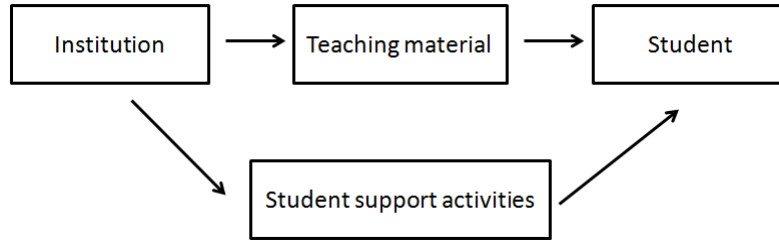


Figure 5 Catalytically Assisted Reaction Model (Simpson, 2000)

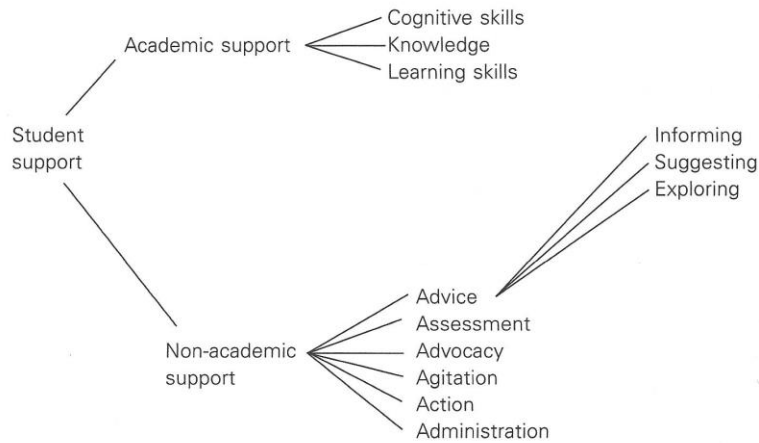


Figure 6 Academic Support and Non-Academic Support (Simpson, 2000)

### Distance Learning Model for Agricultural Extension and Education

Yaghoubi and Malekmohammadi (2008) presented a model for e-Learning in higher agricultural extension and education in Iran that was designed for a population of graduate students of agricultural extension and education in Iran. As represented in the model (Figure 7), the main components for e-Learning in higher agricultural extension and education in Iran were students, faculty members, educational interactions, supporting factors, and learning management system.

Yaghoubi and Malekmohammadi (2008) stated the five most highly ranked items in requirements for students entering into e-Learning in higher agricultural extension and education were responsibility, participation and creativity, IT skills, motivation, and virtual ability. In addition, the most important item in requirements for faculty members was learning management and feedback. Finally, the factors of e-Learning success in higher agricultural extension and education were reduced to two main factors, named as interactions and supporting factors and contents and educational tools (Yaghoubi & Malekmohammadi, 2008).

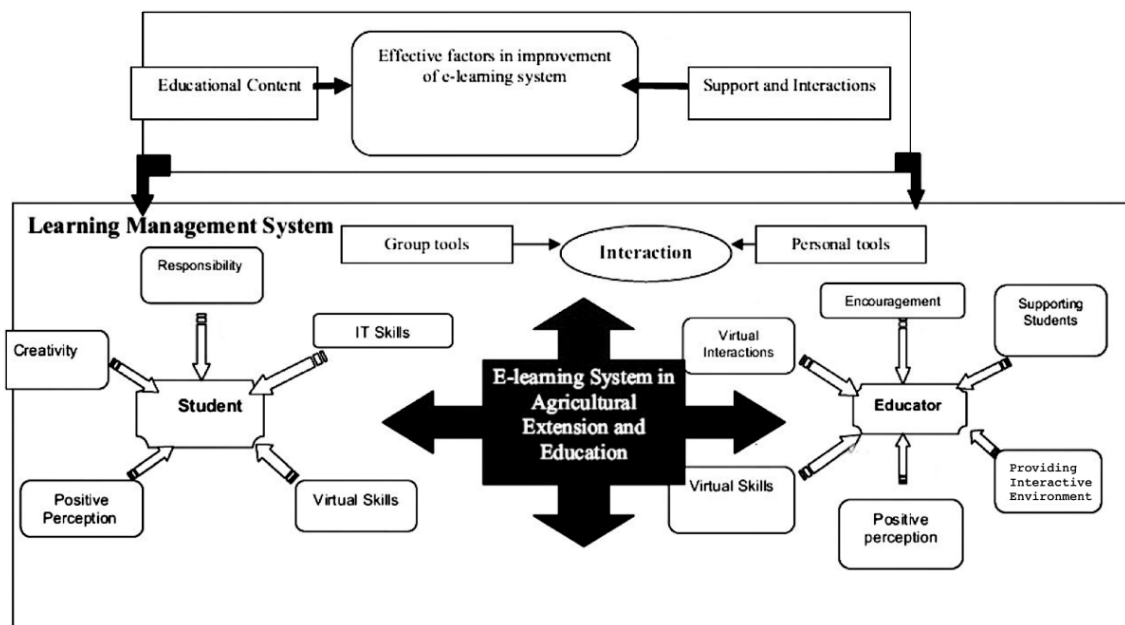


Figure 7 Model for e-Learning in higher agricultural extension and education in Iran (Yaghoubi & Malekmohammadi, 2008)

## Managing for Distance Learning

Planning for distance learning is an important process. To understand about planning, Picciano (2001) presented a planning model for distance learning (Figure 8). The structure of the model assumes that an educational organization (school/college) operates within a government board that in turn operates within an environment or society. The environment provides a culture and values from which goals and objectives are formulated. In addition, these goals and objectives, including the need for distance learning, result in applications, the fundamental elements of which include hardware, software, staff, facilities, and finances. These applications are evaluated and reviewed, and feedback is provided, which restarts the entire planning cycle (Picciano, 2001).

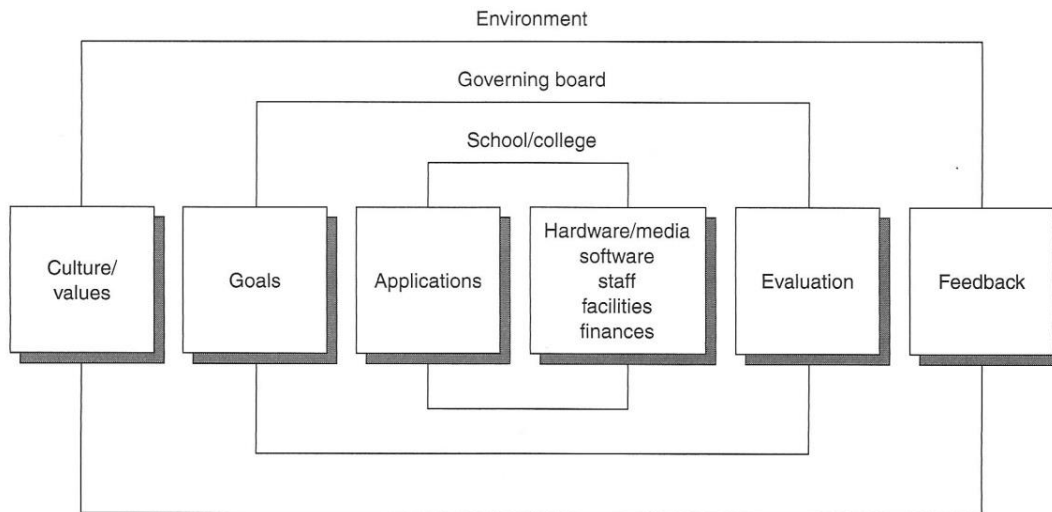


Figure 8 Model for Planning for Distance Learning (Picciano, 2001)

## **Distance Learning Technology**

Technology that is used in distance learning is defined as the physical element used to transmit, store, and receive information including printed material (Picciano, 2001). Picciano identified four technologies of distance learning: print technologies, audio technologies, video technologies, and computer technologies. In addition, Picciano (2001) compared the advantages and limitations of these technologies (see Table 1).

Printed materials, such as textbooks, study guides, assignments and workbooks, are easy to use and inexpensive, but there is no interaction between instructors and students. Using this technology, students must have more learning skills.

The audio technology is easy to use and inexpensive. Radio broadcasting is an important audio technology that can provide information to many students at the same time. However, using audio technology cannot transmit any graphics, so printed material such as study guides should be included with this technology.

The video technology is a useful technology for distance learning system. Video, VCD, DVD, and television are popular for students' learning. Instructors can input graphics and clip video to explain their contents in video technology. However, the disadvantage of video technology is that it is non-interactive and expensive.

The last technology is a computer. There are many features of computer technology that help students learn, such as video conference, computer software, and network. Instructors can apply printed material, audio, and video into computer technology and provide their instructions via the internet system. However, instructors and students must have the skills to use computer technology.



Table 1 Comparison of Distance Learning Technologies (Picciano, 2001)

Technology	Advantages	Limitations
<b>Print</b>		
Textbooks Study Guides Syllabi Assignments Workbooks	Easy to Use Familiar Spontaneous Inexpensive Portable Self-Paced	Non-Interactive Dependent on Learner Reading Skills Passive/Self-Directed
<b>Audio</b>		
Audiocassette	Easy to Use Portable Inexpensive Self-Paced	Non-Interactive Passive/Self-Directed Requires Printed Study Guides Non-Graphic
Radio	Mass Distribution Easy to Use (Student)	Non-Interactive Requires Printed Study Guides Non-Graphic
Audioconferencing	Interactive Immediacy	Non-Graphic Development Time Requires Printed Study Guides
Audiographics	Interactive Immediacy	Requires Printed Study Guides Limited Graphics
<b>Video</b>		
Videocassette	Easy to Use (Student) Self-Paced Graphic	Non-Interactive Passive/Self-Directed Requires Printed Study Guides
Television	Mass Distribution Graphic Easy to Use (Student)	Non-Interactive Requires Printed Study Guides Development Time Expensive
Videoconferencing	Interactive Graphic Immediacy	Development Time Expensive Complex Technology
<b>Computer (Digital)</b>		
Packaged Software (CD-ROM, Network)	Interactive (Limited) Multimedia Self-Paced	Development Time Expensive Complex
Synchronous/Network (Videoconferencing)	Interactive Multimedia Immediacy Participative	Development Time Expensive Complex
Asynchronous/Network	Interactive Graphics (Limited) Self-Paced	Development Time Complex Expensive Student Access to Technology Rapidly Evolving Technology

## Adult Learning and Learning Cycle

Adult learning is a theory that holds a set of assumptions about how adults learn. Zemke and Zemke (1984) said the knowledge about adult learning might be divided into three basic divisions: (1) things we know about adult learners and their motivation, (2) things we know about designing curriculum for adults, and (3) things we know about working with adults in the classroom. This concept is represented as Figure 9.

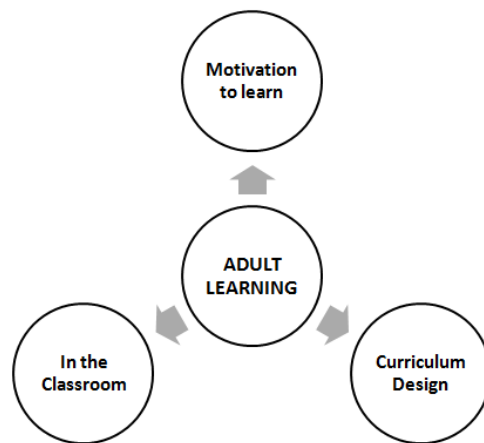


Figure 9 Three Basic Divisions of Adult Learning (Zemke & Zemke,1984)

The first basic division is the motivation to learn. In this division, Zemke and Zemke (1984) asserted what teachers should know about adult learners and their motivation. The main concepts of this division were about adults' experiences. Adults usually want to learn something that will better their lives in some way. They are not necessarily interested in knowledge for its own sake; learning may be simply a means to an end. Also, these adults bring a wealth of information and experiences to a learning situation and therefore, generally want to be treated as equals who can assume responsibility for their own learning. The next division is curriculum design for adult

learning. The main concepts of this division include the needs of adults such as preferring a single concept, the new information that indicates new ideas with what they already know, and the program should be designed to accept viewpoints from people in different life stages. The last division is class climate. The main concepts are that the learning environment should be comfortable, and the adults should have opportunities to actively participate in the learning experience.

For effective adult learning, Vella (2002) presented the 12 Principles for Effective Adult Learning: (1) needs assessment that include learner's participation in naming what is to be learned, (2) safety in the environment between teacher and learner for learning and development, (3) sound relationship between teacher and learner for learning and development, (4) careful attention to sequence of content and reinforcement, (5) praxis or action with reflection or learning by doing, (6) respect for learners, (7) cognitive, affective, and psychomotor aspects - ideas, feelings, actions, (8) immediacy of the learning, (9) clear roles and role development, (10) using small-group teamwork, (11) engagement of the learners in what they are learning, and (12) accountability. However, learning and teaching for adults should consider 6 factors including: (1) political concept, (2) problem posing, (3) part of a whole, (4) participative, (5) person-centered, and (6) prepared.

In addition, Vella (2002) stated that a teacher should use the seven design steps for adult education by the twelve principles. The seven design steps focus the design and invite use the twelve principles as we make our plan. The questions to be answered is who (participants), why (the situation), when (the time frame), where (the site, the

arrangement of the room), what (content and attitudes), what for (achievement based objectives), and how (the learning tasks and materials).

The learning cycle is an important concept for adult learning. Rogers (2001) explained the concept for successful learning is that we need to go through a cycle of learning: (1) activity – doing something; (2) reflection – thinking about the experience; (3) theory – seeing where it fits in with theoretical ideas; and (4) pragmatism – applying the learning to actual problems that are concluded. In addition, Rogers also explained the styles that adults like and dislike, such as adults like to learn “doing and experiencing”, but they did not like “sitting around for too long”. The styles that adults like and dislike are presented in Table 2.

Table 2 The Styles That Adults Like and Dislike (Rogers, 2001)

Style	Like	Dislike
Activists	Doing and experiencing. Enjoy games, practical activities, anything that’s energetic and involving.	Sitting around for too long; working alone; theorizing; Having to listen to others droning on.
Reflectors	Time to think, observe, take it all in first; love to watch others; need some solitude and above all, time.	Being hurtled into activity, having no time to think; crammed timetables; lack of privacy, no time to prepare.
Theorists	To know where something fits in to overall ideas and concept; analysis and logic; being stretched; abstract structure and clarity.	Frivolity, mindless fun; wasting time; not being able to question and be skeptical; lack of a timetable and proper structure.
Pragmatists	Practical problem solving; relevance to ‘the real world’; learning that answers the question ‘How can I apply this?’	Anything airy-fairy and theoretical; learning that makes too many references to the past or the future and avoids drawing attention to now.

## **Principles of Extension Education**

Extension, in general terms, is a function that can be applied to various areas of society such as education, agriculture, rural development, health, and industry (FAO, 2001). Various scientists have defined the term “Extension” according to their interest, experience and training. However, Chauhan (2007) concluded that the definition of Extension Education is an education bringing a desirable change in behavior (knowledge, skills, and attitudes) of rural people to improve their social, economic, and psychological status.

The main aim of Extension Education is to bring about all-around development of rural people. In this all-around development, educational, social, economic and political developments are included. The first aim of Extension Education is to bring change in the behavior, work capacity, and attitude of learner to result in the better life. The second aim of Extension Education is social, economic and political change that is automatically achieved by bringing about educational changes. The objectives and characteristics of Extension Education are presented as Figure 10.

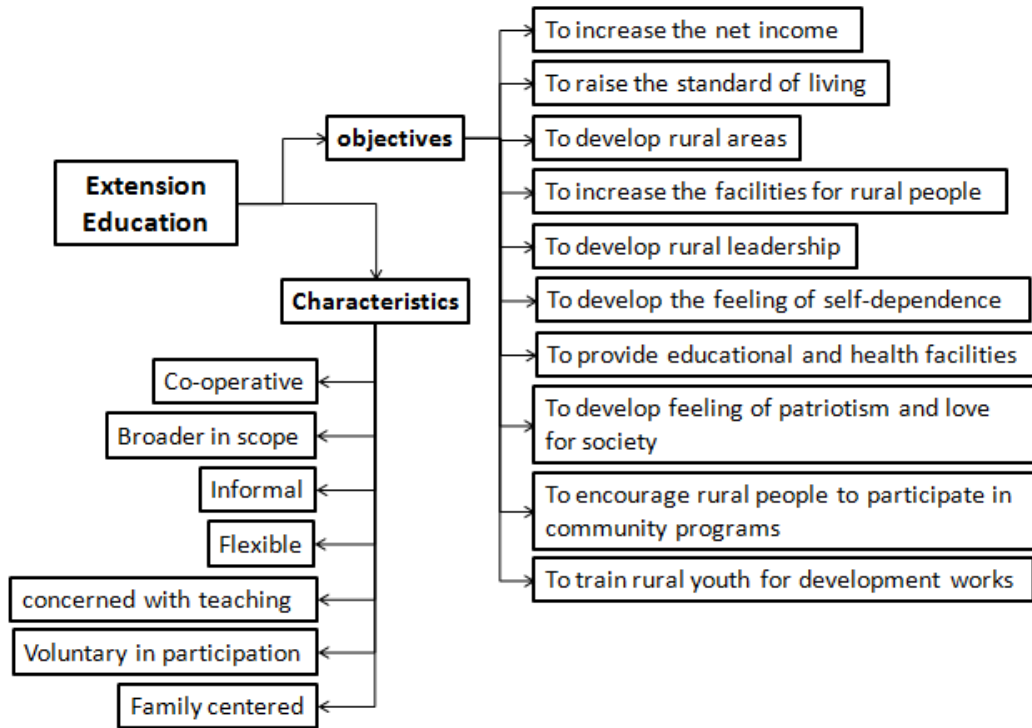


Figure 10 Objectives and Characteristics of Extension Education (Chauhan, 2007)

### Principles of Extension Education

The principles of extension education are essential for success of the extension philosophy. Principles of extension education should be simple, easy, educational, and moral. Chauhan (2007) stated the general principles of extension in 13 dimensions (Figure 11): need and interest, cooperation and participation, culture difference, applied science and democratic approach, learning by doing, trained specialists, adaptability in use of extension teaching methods, leadership, whole family, satisfaction, evaluation, neutrality, and encouragement.

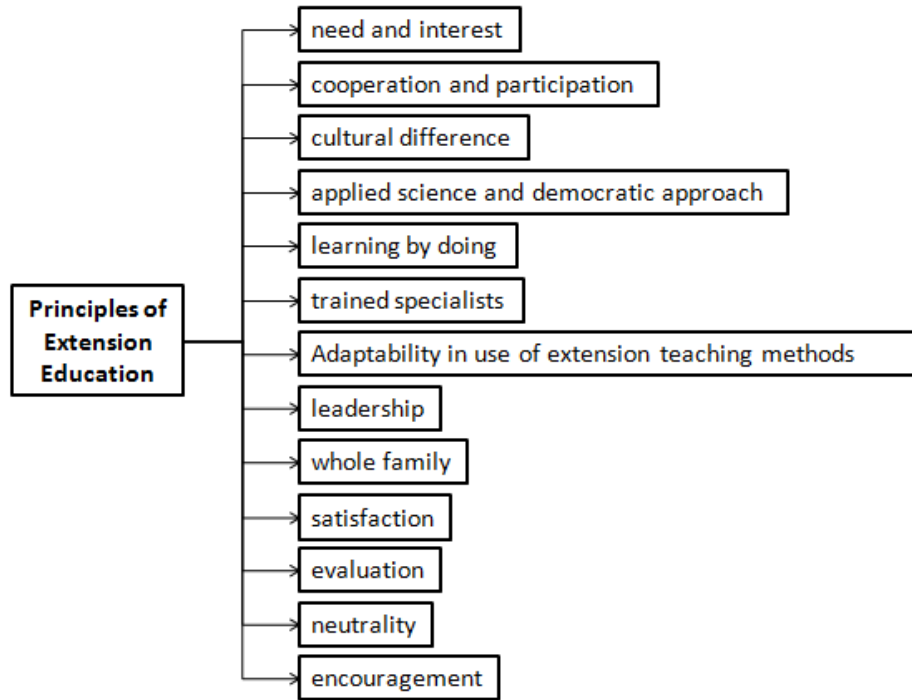


Figure 11 The Conclusion of Principles of Extension Education (Chauhan, 2007)

### Demographic Characteristics of Distance Learning Students

Distance learning is a popular learning system in the world. By understanding the demographic characteristics of distance learning, students can assist institutions in making decisions regarding the distance education programs. Islam, Rahim, Liang, and Momtaz (2011) stated that demographically effective factors of e-Learning are gender, age, students' status (full-time or part-time), programs of study, level of education, race, marital status, and employment. In addition, Islam, Rahim, Liang, and Momtaz confirmed that age, program of study and level of education have a significant effect on the effectiveness of e-Learning.

Many researchers who studied distance learning or e-Learning always analyzed the demographic characteristics of distance learning students. For example, Charron and

Koo (2007) found that over half of the distance learning students were female (60.3%), older than 25 years of age (37%), and married (21.9%). Bryant, Kahle, and Schafer (2005) concluded that distance learning students were, on average, older than the general student population, more often female, employed full-time, and more likely to be married. Ponzurick, France, and Logar (2000) found that MBA students in a distance learning course were more likely to be older, married, have children and work than students enrolled in the on campus version of the class, and Shea, Motiwalla, and Lewis (2001) found that the profile of students in their programs leans heavily toward older, working females. Sultana, Jahan, and Numan (2011) studied students' perception and attitude towards program at Bangladesh Open University. They reported that most students were male (62%) with the mean age 34 years, and more than 50% of the learners were married and nearly half (47.6%) of the students were private employees and 86.6% were Muslims. Amongst them, 72.2% were from urban areas and resided around 23.08 km from the tutorial centers.

In the United States, the 2013 National Online Learners Priorities Report (Noel-Levitz, 2013) presented the responses to the Noel-Levitz Priorities Survey for Online Learners<sup>TM</sup> (PSOL) of 114,138 students from 104 institutions. The results included online learner responses over a three-year time period from the fall of 2010 through the spring of 2013. The study reported that the majority of online learners were Caucasian females primarily enrolled with a full-time class load. A majority was at the undergraduate level and employed full-time while working on their degrees. A little over half of the students were married and one-half owned their own home. Most of the students planned to complete their degrees online and were currently taking six or fewer



credits. They were also new to online programs with the majority having previously taken three classes or less. Forty-four percent of the students had a graduate-level goal of obtaining a doctorate or master's degree (Noel-Levitz, 2013).

In Thailand, there is some research about STOU students' demographics characteristics. For example, Sungkatavat (2009) stated that STOU students have various demographic characteristics. They are full-time workers, housewives, monks, ethnic hill tribe members, and detainees, and the student age range is broad. Seubsman et al. (2012) reported that many STOU students were already employed in the workforce and continued their education for various reasons; the reason for studying at STOU was to improve their skills for career promotion or to further expand their knowledge in particular fields. In addition, Seubsman et al. stated that students were female (46.8%), 21-30 years old (56.2%), not married (67.1%), had a socioeconomic status education of being a junior in high school (44.9%), had a monthly income of 6,000-9,000 baht/month (24.7%), and were located in Bangkok and Central (40.8%). In addition, students primarily enrolled in the School of Management Science (38.0%), the School of Law (22.2), the School of Political Science (12.4%), the School of Agricultural Extension and Cooperatives (4.6%), the School of Liberal Arts (4.4%), the School of Health Science (4.2%), the School of Educational Studies (3.2%), the School of Human Ecology (3.1%), the School of Communication Arts (3.0%), the School of Science and Technology (2.1%), the School of Economics (1.5%), and the School of Nursing (1.4%).

In conclusion, the demographic characteristics of distance learning students are important factors for researchers to examine distance learning. The characteristics of students vary depend on their countries, geographic, and socioeconomic status. However,

the popular factors for demographics study are gender, age, students' status, marital status, employment, program study, and income.

### **Attitude of Students and Instructors Toward Distance Learning**

Ojo and Olakulehin (2006) stated that attitude is a favorable or unfavorable evaluation of something. Normally, attitudes are generally positive or negative views of a person, place, thing, or event. People can also be conflicted or ambivalent toward an object, meaning that they simultaneously possess both positive and negative attitudes toward that particular thing, place, and person for the present study (Ojo & Olakulehin, 2006).

Zhang and Han (2008) stated in their study that attitude consisted of cognition, sensibility and will, and was a comparatively stable reaction trend towards certain special objects. Attitude itself was not an action, but a reaction towards action. Attitude exerts direction and drive towards a person's reaction. In addition, Zhang and Han explained that the formation of an attitude will undergo three processes, obedience, recognition and internalization. An individual receives new information about attitude object, re-evaluates the values of the attitude object, and fixes new action trends, after which a new action attitude is formed (Figure 12).

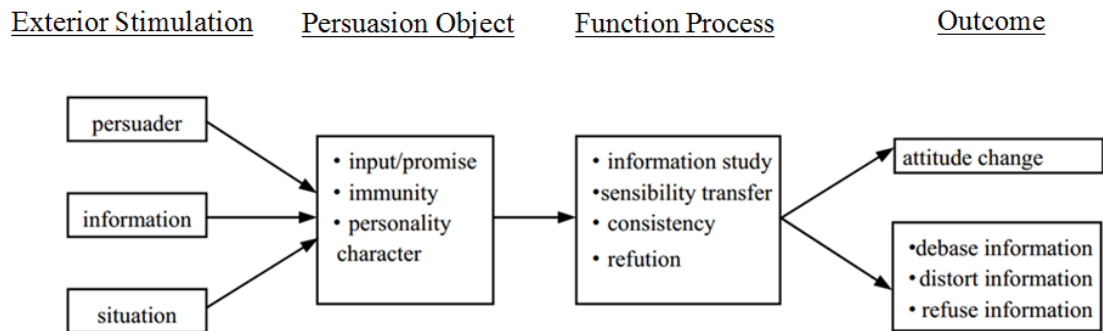


Figure 12 Persuasion and Attitude Change Model (Zhang & Han, 2008)

Zhang and Han (2008) presented that the management of teaching attitudes of teachers becomes a key in the improvement of current teaching performance. In addition, to change others' attitude is a management job and especially, is an important component of the work of leaders. Figure 13 shows a model of teaching attitude, adjusting an inner circulation attitude to teaching activities, experience, and teaching attitude.

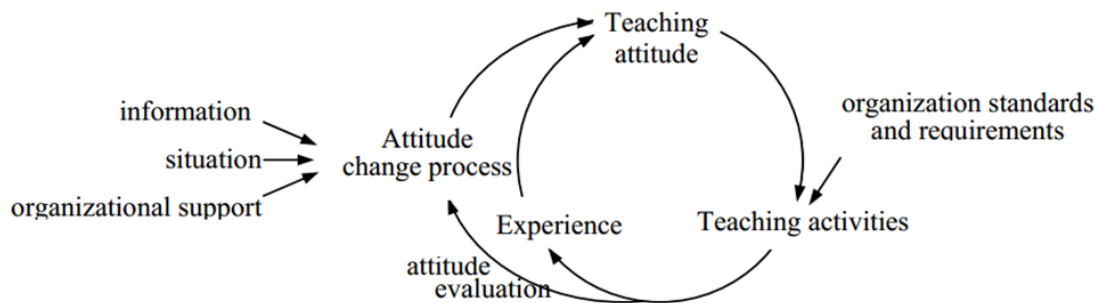


Figure 13 Teaching Attitude Adjusting Model for College Teachers (Zhang and Han, 2008)

According to international studies, many researchers examined attitudes of students toward distance learning. For example, Hong, Lai, and Holton (2003) found that

the majority of the students at a Malaysian university were satisfied with their online learning experience and achieved learning outcomes comparable to students in the face-to-face version of the course. Students appreciated the flexibility of anytime, anywhere learning. Almobarraz and Farag (2009) reported the results of graduate students' attitude towards e-Learning in the Kingdom of Saudi Arabia that indicated an overall positive attitude towards e-Learning. Al-Zaidiyeen, Mei, and Fook (2010) reported that teachers in a Jordan school had a low level of ICT use for educational purposes, but teachers had positive attitudes towards the use of ICT, and a significant positive correlation existed between teachers' level of ICT use and their attitudes towards ICT.

Mohammadi, Hosseini, and Fami (2011) studied agricultural instructors' attitudes toward e-Learning usage. The results indicated that instructors had a positive attitude toward using e-Learning as a teaching-assisted tool. Intrinsic incentives and motivators for acceptance of e-Learning were more important than extrinsic incentives and motivators. In addition, the researchers proposed guidelines for developing e-Learning environments in agricultural education such as high flexibility in time, low limitation in space, greater learning choice, and diverse content. Meena, Singh, Meena, and Kanwat (2012) reported the attitudes of agricultural graduates towards videoconferencing (VC) technology in India. Students had positive attitudes in applied areas of VC technology, training, distance learning, agricultural communication and extension management.

Al-Shboul (2014) studied prevalent faculty members' perceptions and attitudes towards the use of e-Learning tools in higher education at a Jordanian university with results indicating that faculty members were positive in their perceptions of e-Learning and tend to use e-Learning more. In addition, the researcher asserted three themes

emerged: (a) faculty members need financial incentives, rewards systems, administrative recognition to encourage them to use e-Learning tools; (b) faculty members need training, technical assistance, and institutional support to enable them to use e-Learning tools; and (c) faculty members need more information about the effectiveness of e-Learning tools for instruction.

In Thailand, Sirirat (2005) reported the perception of STOU students toward distance learning via satellite management in overall and each aspect was classed at a high level, and no significant difference between the perception of male and female students. Juntarapap (2010) studied and compared teachers' opinions on educational management through distance learning via satellite system in Tai - Mueng district, Phang - nga Province. Generally, teachers' opinions on educational management through distance learning via satellite system were high. Moreover, teachers' opinion on educational management through distance learning via satellite system in each factor was also rated high.

In a study by Sanserm (2010) to examine students' and instructors' perceptions of using ATutor as the learning content management system (LCMS) in e-Learning courses at a distance university in Thailand, the researcher found that gender, age, comfort of using computer and ATutor, time spent online, place and frequency accessing ATutor, internet access and connection had a significant and positive correlation to students' perception of using ATutor. In addition, ATutor supports self-directed learning because it enhances students' ability to set an appropriate pace for learning and get assistance from various resources. Finally, students and instructors supported the university to adopt ATutor for all distance learning courses. Silphiphat (2011) used the T5 Model to

experiment with the Thai graduate students at Sukhothai Thammathirat Open University. The researcher reported results that the students' opinion towards learning management by using e-Learning intensive seminar was at a high level. However, the students' problems were the lack of time to sign into the system to learn, the lack of computer skills, and the lack of computers at offices or homes.

In the United States, Miller and Honeyman (1993) found that most students enrolled in Agriculture at Iowa State University had strongly positive attitudes toward the use of videotape as a tool for delivering agriculture courses. Nti (1997) reported that most agricultural and extension education faculties in the eastern United States were interested in delivering courses and programs through distance education. Born and Miller (1999) studied 42 agronomy faculty at Iowa State University about their perceptions of web-based distance education, and found that the agronomy faculties' perceptions were higher when they were familiar with the program or had viewed a lesson. Motiwalla and Tello (2000) presented the development of a web-based course model and reported that students were satisfied with the online learning environment, appreciated the flexibility, and were satisfied with quality and course content. Diaz (2000) reported when comparing the satisfaction of online and traditional students that online students were more satisfied with their courses and grades. Johnson, Aragon, and Shaik (2000) compared a graduate online course with an equivalent course taught in a traditional face-to-face format on a variety of outcome measures. They reported that the students in the face-to-face course held slightly more positive perceptions about the instructor and overall course quality although there was no difference between the two course formats in several measures of

learning outcomes. The findings have direct implications for the creation, development, and delivery of online instruction.

Dunbar (2004) found that the online students in a tax accounting course at the University of Connecticut indicated satisfaction with their learning methods. In addition, Dunbar also noted that students with more experience seemed to have an increased willingness to take additional distance courses. Charron and Koo (2007) found that students who were upper-division and graduate level in accounting courses at the University of Nevada had positive attitudes towards distance education, and they also found positive perceptions of distance education increased student demand for distance education. Knowles and Kerkman (2007) investigated students' attitudes and motivation toward online learning. The study showed that students' attitudes were more positive during the last week of the course than in the first week. Martin (2009) reported that Oklahoma agricultural educators held agreeable attitudes toward utilizing technology in the classroom. Computers with Internet access were available to almost every teacher and student. However, teachers indicated they were only using the technology at a moderate level, and mostly for secondary activities like research and communication. Less than half the teachers felt they had adequate training in computers and they mostly had to train themselves through personal trial and error. Oklahoma agricultural educators felt their school district encouraged the use of computers.

Anderson and Williams (2012) studied the agricultural science teachers' attitude toward five innovations of information technology from secondary Agricultural science teachers from Texas FFA Areas V and VI. The study indicated that agricultural science teachers had positive attitudes toward information technology and adoption of the five

specific innovations of information technology (Computer-Aided Design, Computerized Online Record Books, Electronic Mail, Online Career Development Event Registration, and World Wide Web).

However, some researchers found negative attitudes of students toward distance learning. Ponzurick et al. (2000) found that students in a distance education environment had lower satisfaction than students in a face-to-face environment. Vamosi, Pierce, and Slotkin (2004) found that students' overall satisfactions were lower for asynchronous delivery than traditional classroom delivery of introductory accounting.

### **Summary**

The Association of Southeast Asian Nations (ASEAN) is an economic organization of ten countries located in Southeast Asia. In 2007, leaders of the countries affirmed their strong commitment to accelerate the establishment of an ASEAN Community by 2015. The ASEAN Community is comprised of three pillars, namely the ASEAN Political-Security Community (APSC), ASEAN Economic Community (AEC), and ASEAN Socio-Cultural Community (ASCC). If ASEAN were a single entity, it would rank as the ninth largest economy in the world.

An Open University is different from a conventional university that recruits new students with formal academic qualifications. In 2014, seven out of ten ASEAN countries offer open universities to their people who wish to study at the university level: Vietnam, Singapore, Indonesia, the Philippines, Malaysia, Myanmar, and Thailand. However, Thai Open University is the only university that offers agricultural extension programs.

Sukhothai Thammathirat Open University (STOU) was the first Open University in Southeast Asia. In 2012, STOU has developed into one of the world's "mega"



universities with about 200,000 learners (about 85% are working adults) enrolled in master, bachelor, diploma, certificate and continuing education programs of more than 300 courses in 12 schools of study with a strong emphasis on social science. STOU uses distance learning systems to transfer knowledge and skills to students. Many researchers stated that most students at Open University are adults. According to learning theory, there are three basic divisions of adult learning: (1) motivation to learn, (2) curriculum design, and (3) working with adults in the classroom. In addition, the six considerations for effective learning and teaching adults are political, problem posing, part of a whole, participative, person-centered and prepared.

Thailand is an agricultural country that is one of the world's major agricultural exporters, and agricultural extension is important knowledge for Thai agricultural improvement. Extension education is an education bringing a desirable change in behavior (knowledge, skills and attitudes) of rural people to improve their social, economic, and psychological status. The School of Agriculture and Cooperatives is one of STOU's schools that offer Agricultural Extension program (Bachelor's degree) and Agricultural Extension and Development programs (Master's and Doctoral degree) through a distance learning system that includes convergence of many different types of media, making higher education accessible, affordable, and serviceable to all. The educational multimedia provided for students are textbooks and workbooks, radio programs, television programs, media on demand, multimedia e-Learning and e-Training, mobile learning, e-Tutorials, and face-to-face Tutorials.

Understanding the demographic characteristics of distance learning students can assist institutes to improve their educational programs. The studies of attitudes of

students and instructors toward distance learning systems showed characteristics that vary according to their countries, geographic, and socioeconomic status. In addition, most researchers reported that, worldwide, students and instructors had positive attitudes toward distance learning education. However, problems about distance learning, such as too many students, lack of technology skills, not enough good instructors, and learning cost are important factors that educators have to resolve and must also improve their programs based on social and technological change.

## CHAPTER III

### METHODOLOGY

The purpose of this chapter was to describe the methods and procedures the researcher will use to conduct this study. It includes research questions to be evaluated, descriptions of the design, population, instruments, the data collection procedure, variables, and data analysis procedures.

#### **Purpose and Research Questions**

The purpose of this study was to determine the attitudes of instructors and students in the Thai Open University toward the distance learning system for the Agricultural Extension and Development program for participating in the ASEAN Community. To fulfill the purpose, the following research questions guided the study:

1. What was the socioeconomic status of instructors and students at Sukhothai Thammathirat Open University that offer Agricultural Extension and Development Programs?
2. Did students at Sukhothai Thammathirat Open University have accurate knowledge about the ASEAN Community?
3. What were the attitudes of undergraduate and graduate students, and instructors at Sukhothai Thammathirat Open University toward Agricultural Extension and Development programs?

4. What were the attitudes of undergraduate and graduate students, and instructors at Sukhothai Thammathirat Open University toward distance learning system for Agricultural Extension and Development programs?
5. Was there a difference between the attitudes of undergraduate students and graduate students towards distance learning system for Agricultural Extension and Development programs?

### **Research Design**

Mixed methods procedures were in this study. The mixed methods procedure was developed in response to a need to clarify the intent of mixing quantitative and qualitative data in a single study (Creswell, 2003). The first procedure, quantitative procedures, is a combination of a descriptive survey and comparison research designs. The descriptive survey was chosen as a method to determine the attitudes of instructors and students. The comparison design was chosen to determine if there was difference of undergraduate students and graduate students toward the distance learning system. The second procedure, qualitative procedures, was used to describe knowledge, experience, and opinion of participants. The focus group approach was used to collect qualitative data.

### **Population and Sample**

The population for the study consisted of instructors and students of agricultural extension programs at School of Agriculture and Cooperatives, Sukhothai Thammathirat Open University in Thailand. The population of this study was segmented into four groups: (1) Undergraduate students in the Agricultural Extension program at Sukhothai Thammathirat Open University ( $N = 3,966$ ); (2) Graduate students in pursuit of a

Master's degree in the Agricultural Extension and Development program at Sukhothai Thammathirat Open University ( $N = 257$ ); (3) Graduate students in pursuit of a doctoral degree in the Agricultural Extension and Development program at Sukhothai Thammathirat Open University ( $N = 12$ ); and (4) Instructors who taught in the Agricultural Extension and Development program at Sukhothai Thammathirat Open University ( $N = 10$ ).

A purposive sampling approach was used to select samples of undergraduate students and graduate students from School of Agriculture and Cooperatives at Sukhothai Thammathirat Open University. Beins and McCarthy (2012) explained that purposive or judgmental sampling is a nonrandom (nonprobability) sampling technique in which participants are selected for a study because of some desirable characteristics, such as expertise in some area.

For this study, the purpose of the study was to determine the attitudes of instructors and students toward the distance learning system for the Agricultural Extension programs. To fulfill the purpose, students who participated in the study had experience about the STOU distance learning system and Agricultural Extension and Development program, so students who were in the last year of their programs and were enrolled in Spring 2014 were included in the samples. Thus, the samples for purposive sampling were:

1. The last-year undergraduate students in the Agricultural Extension program at Sukhothai Thammathirat Open University enrolled in the Professional Experience in Agricultural Extension class in Spring 2014 ( $n = 284$ ) were invited to answer the questionnaire, and 15 last-year

undergraduate students in the class were randomly selected for participation in a focus group.

2. The last-year Master's degree students in the Agricultural Extension and Development program at Sukhothai Thammathirat Open University enrolled in the Thesis class in Spring 2014 ( $n = 111$ ) were invited to answer the questionnaires, and 15 last-year Master's degree students in the class were randomly selected for participation in a focus group.
3. The doctoral students in the Agricultural Extension and Development program at Sukhothai Thammathirat Open University enrolled in the Dissertation class in Spring 2014 ( $n = 12$ ) were invited to answer the questionnaire.
4. For the group of 10 instructors who taught Agricultural Extension and Extension programs at Sukhothai Thammathirat Open University in Spring 2014, the entire instructor group was invited to answer the questionnaire.

However, the problem for purposive sampling is the same as with any other nonprobability sampling: that is, non-sampling error. This problem occurs when people who should be included in a sample are not or may not be representative of the population as a whole (Beins & McCarthy, 2012). In this study, purposive sampling was used to select samples from the STOU students who will graduate soon, and have some experience with distance learning in Agricultural Extension and Development program. The population and sampling methods are shown as Figure 14.

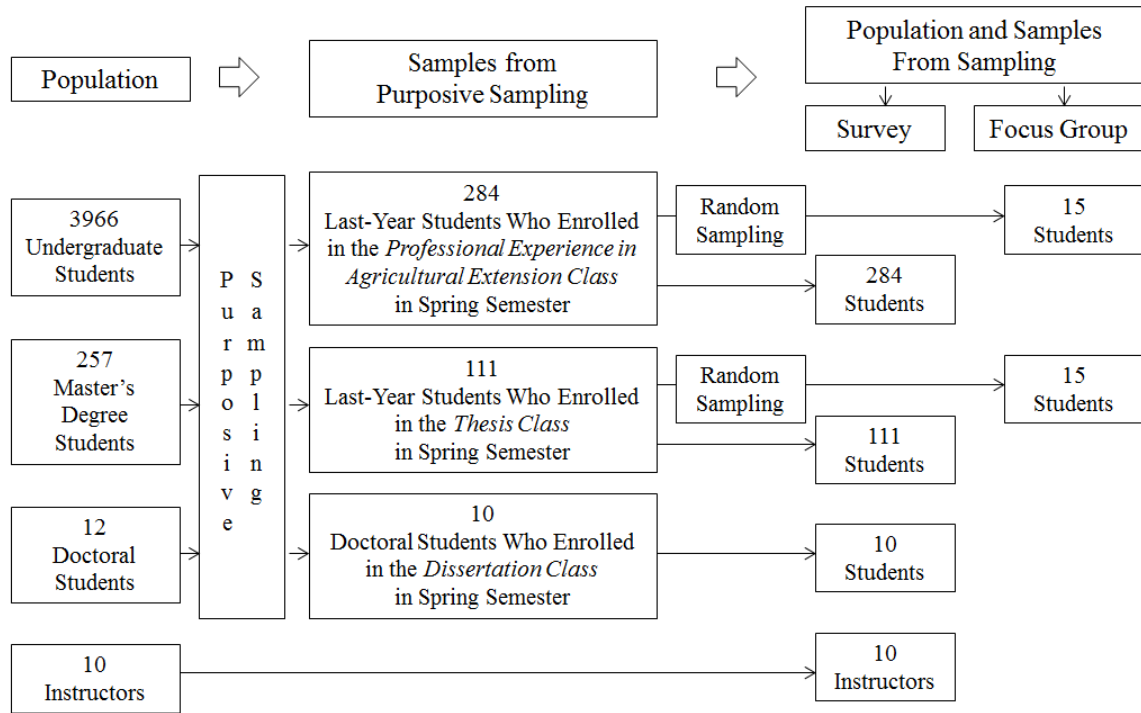


Figure 14 Population and Sampling Methods

### Instrumentation

The instruments were constructed after the literature review. The researcher used two types of instrumentation to collect data: questionnaires and a focus group discussion guide (Figure 15).

The first type was a questionnaire. Four different questionnaires were constructed for this study, one for the students of the Bachelor's degree program, one for the students of the Master's degree program, one for students of the Doctoral degree program, and one for instructors.

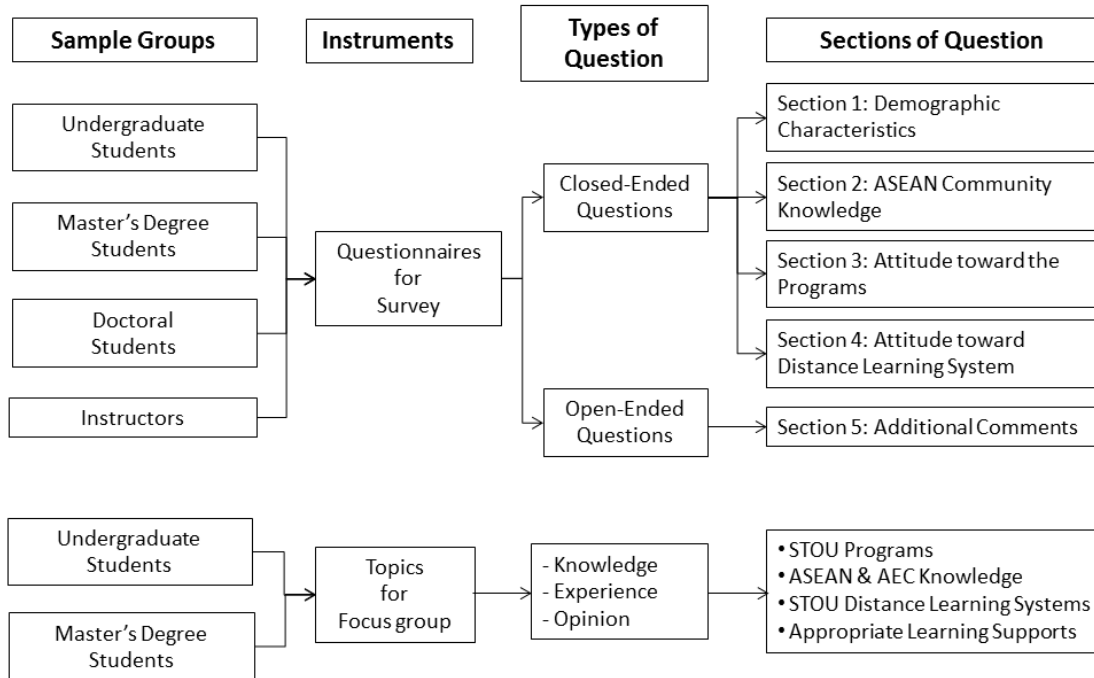


Figure 15 Instruments of the Study

The questionnaires were constructed differently to obtain a unique view of each kind of stakeholder. Each questionnaire contained 5 sections as described below.

Section 1: Demographic characteristics. This section consisted of 14 closed-ended questions. The questions in this section were about the socioeconomic characteristics of participants (e.g., gender, age, experience, income, occupation, distance learning devices, and distance learning technology skills).

Section 2: ASEAN Community knowledge. This section consisted of 15 true or false questions about aspects of the ASEAN community.

Section 3: Attitudes toward Agricultural Extension and Development programs. This section consisted of closed-ended questions that vary for the three programs. The questions consisted of 7 questions answered on a five-point Likert-type scale:



1. Question 1: How important are the factors when considering to study in the STOU program? (1= Very Unimportant, 2 = Unimportant, 3 = Neither Important or Unimportant, 4 = Important, and 5 = Very Important).
2. Question 2: How appropriate are the delivery channels for the STOU program? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate).
3. Question 3: How satisfied are participants with the distance learning methods used in the STOU program? (1 = Very Dissatisfied, 2 = Dissatisfied, 3 = Unsure, 4 = Satisfied, and 5 = Very Satisfied).
4. Question 4: What is the level of agreement are participants with the curriculum for the STOU program? (1 = Strong Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, and 5 = Strong Agree).
5. Question 5: How appropriate are the applicant qualifications when applying for the STOU program? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate).
6. Question 6: How appropriate are the program objectives for the STOU program? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)
7. Question 7: How appropriate are the program structures for the STOU Program? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither

Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate).

Section 4: Attitudes toward distance learning system of Agricultural Extension and Development programs. This section consisted of 2 closed-ended questions answered on a five-point Likert-type scale.

1. Question 1: How adequate are the STOU learning system for the STOU programs? (1 = Very Inadequate, 2 = Inadequate, 3 = Uncertain, 4 = Adequate, and 5 = More than Adequate).
2. Question 2: How adequate are the STOU educational services for the STOU programs? (1 = Very Inadequate, 2 = Inadequate, 3 = Uncertain, 4 = Adequate, and 5 = More than Adequate).

Section 5: Addition comments. This section consisted of 2 open-ended questions for participants' use for any additional comments about this survey.

1. Question 1: What are participants' suggestions toward the STOU programs?
2. Question 2: What are participants' suggestions toward the STOU distance learning systems?

The second type of instrument was a focus group discussion guide that was developed for the various focus groups. The questions that express knowledge, experience, and opinion of participants were topics about STOU programs, ASEAN and AEC knowledge, STOU distance learning systems, and STOU learning supports. The questionnaires and focus group discussion guide are presented in Appendix B, C, D, E, and F.

## **Validity**

Validity is an indication of whether a survey instrument measures what it claims to measure (Jackson, 2010). In this study, content validity was used for instrument measures. Jackson (2010) stated that content validity is the extent to which a measuring instrument covers a representative sample of the domain of behaviors to be measured. The ideas for this study will be generated from several studies, and the researcher has constructed several statements to reflect attitudes from the researcher's experience.

After the researcher constructed the questionnaires, they were evaluated and assessed by professors who held a Ph.D. in the field of agricultural and extension education from Mississippi State University and Sukhothai Thammathirat Open University. In addition, the translation of Thai questionnaires was evaluated by STOU professors in the field of agricultural extension and development before the pilot test.

## **Pilot Study**

A pilot study of the survey instrument was conducted in February 2014. The researcher requested permission from the professors who taught the research class at Sukhothai Thammathirat Open University. There were 30 graduate students enrolled in the research class who were asked to complete the survey instruments.

## **Reliability**

Reliability is an indication of the consistency or stability of a measuring instrument or the measuring instrument must measure exactly the same way every time it is used (Jackson, 2010). In this study, the survey instrument was pilot tested with 30

graduate students who did not join the Thesis class. Cronbach's alpha was used to determine if the entire scale was consistent.

Table 3 presents the reliability statistics via Cronbach's alpha. Most areas of study showed the Cronbach's alpha value over .80, indicating strong reliability. However, two areas of study had a Cronbach's alpha value lower than .80: factors for students considering to study the STOU program (.683), and delivery channels for the STOU program (.692).

Table 3 Reliability Statistics via Cronbach's Alpha Test ( $n = 30$ )

Area	Cronbach's Alpha	N of Items
- Important devices for distance learning	.881	15
- Distance learning technology skills	.937	10
- Factors for students consider to study the STOU program	.683	5
- Delivery channels for the STOU program	.692	6
- Distance learning method used in the STOU program	.861	8
- Agreement level toward the Curriculum for the STOU Programs	.878	10
- Adequacy of the STOU learning system	.886	12
- Adequacy of the STOU Educational service	.836	13

*Note:* The questionnaires are presented in Appendix B, C, D, and E.

Based on Table 4, values of weak, moderate, and strong correlation coefficients by Jackson (2010), the above two areas were moderate strength of relationship, so there were no problems with reliability.

Table 4 Values for Weak, Moderate, and Strong Correlation Coefficients (Jackson, 2010)

Correlation Coefficient	Strength of Relationship
$\pm .70 - 1.00$	Strong
$\pm .30 - .60$	Moderate
$\pm .00 - .29$	None (.00) to Weak

### Data Collection

Two data collection procedures, questionnaires and focus groups, were used in this study. After an application was approved by the Institutional Review Board at Mississippi State University, the questionnaires were sent to the School of Agriculture and Cooperatives, Sukhothai Thammathirat Open University. Last-year undergraduate students and last-year graduate students who participated in the seminar at STOU were asked to complete questionnaires. The questionnaires were constructed to be attractive and easy to complete. The students were asked to fill out their questionnaires at the time they take the 5-day classes, and sent them back to researcher before leaving the classes. Every day, the researcher asked them to complete the questionnaires and send back to the researcher. For instructors, they were asked to fill out their questionnaires and sent them back to the researcher's office. After a month, phone calls were used to follow up 2 instructors for their completed questionnaires.

After the Professional Experience in Agricultural Extension classes, fifteen undergraduate students were randomly selected from the Professional Experience in Agricultural Extension Classes to participate in the one focus group. In addition, after the Thesis classes, fifteen Master's degree students were randomly selected from the Thesis

Classes to participate in the other focus group. The focus group script was used to guide the focus groups. Flip charts and card notes were used to more fully capture focus groups discussion.

### **Response Rate**

The data collection period was from February 3, 2014, to May 30, 2014. There were 364 students; 251 undergraduate students of the 284 last-year undergraduate students (88.38%), 104 Master's degree students of the 111 last-year Master's degree students (93.69%), 9 doctoral students of the 10 doctoral degree students (90%), and 10 instructors (100%) who responded to surveys.

### **Variables**

The purpose of this study was to determine the attitudes of instructors and students in Thai Open University toward distance learning system for Agricultural Extension program for participating in the ASEAN Community. Their perspectives were measured using a questionnaire and focus groups to collect data.

To answer research questions 1 to 4, the independent variables in this study were socioeconomic characteristics (gender, age, experience, income, technology devices etc.), ASEAN Community knowledge (purposes, concepts, impact, and information sources). The dependent variables were the attitudes of instructors and students in Sukhothai Thammathirat Open University toward distance learning system for Agricultural Extension program for participating in the ASEAN Community and difference between the attitudes of undergraduate students and graduate students towards programs and distance learning system (Figure 16).

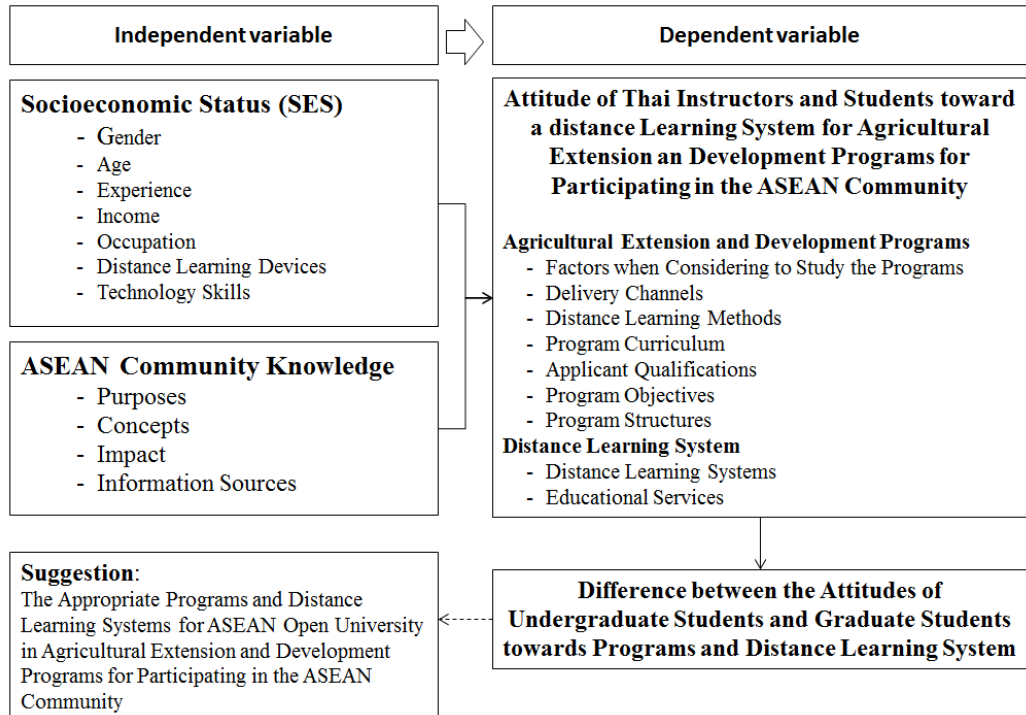


Figure 16 Variables for Research Questions 1 to 4 (Descriptive Statistics)

For research question 5, the grand means of students' attitude were used as the dependent variable to compare groups of undergraduate students and graduate students (Figure 17).

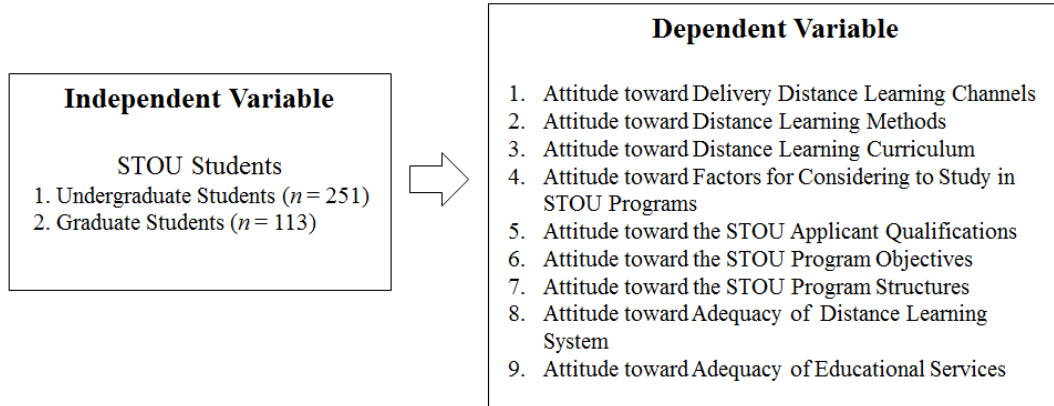


Figure 17 Variables for Research Question 5 (Comparison Statistics)

### Data Analysis

The research design in this study was a mixed method research that concluded quantitative research (descriptive survey) and qualitative survey (focus group). Data collected from the survey instrument were analyzed and interpreted using SPSS version 16.0 for Windows, and data from focus group were interpreted and described (Table 18).



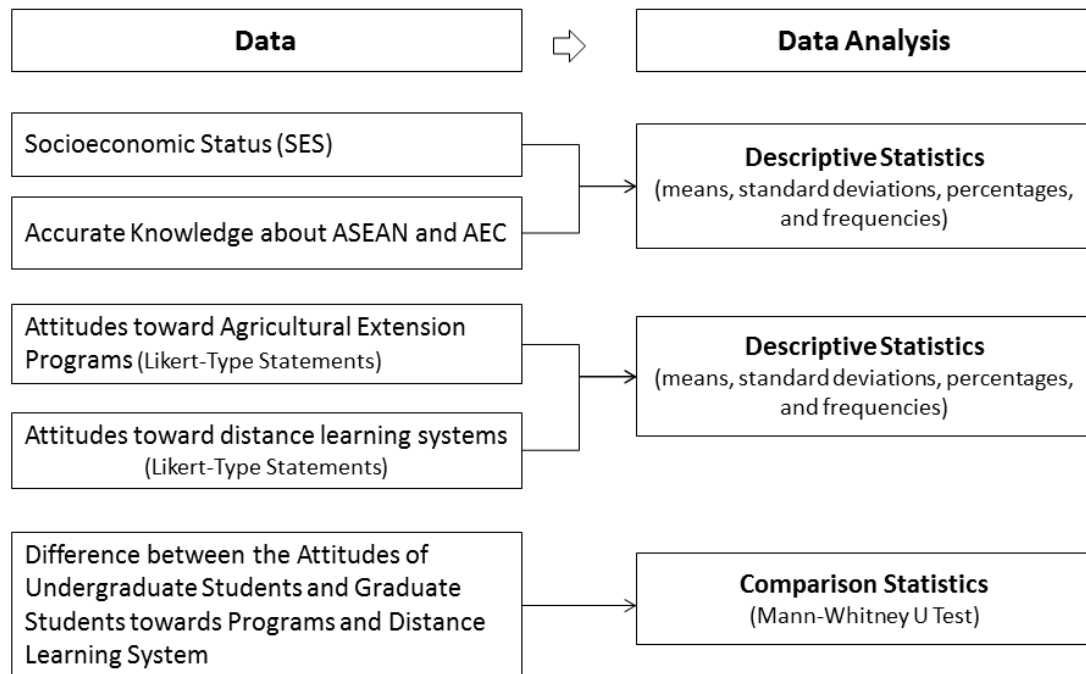


Figure 18 Data Analysis

The first objective of the study was to describe socioeconomic status of participants. Descriptive statistics including means, standard deviations, percentages, and frequencies were used for data analysis. The second objective of the study was to test students' accurate knowledge about the ASEAN Community. The questions were true or false question, and descriptive statistics including means, standard deviations, percentages, and frequencies were used for data analysis. The third objective of the study was to describe attitude of instructors and students toward Agricultural Extension programs. In order to describe perceptions of attitude, instructors and students were asked to rate the perceptions of programs. A Likert-type scale was used for instructors and students to rate the agreement with programs. The fourth objective of the study was to describe attitude of instructors and students toward distance learning systems for

Agricultural Extension program. In order to describe perceptions of attitude, instructors and students were asked to rate the perceptions of distance learning systems. A Likert-type scale was used for instructors and students to rate the agreement with programs.

Tenenbaum and Driscoll (2005) explained that the raw data commonly share differences among its values. Researchers can reduce the number of values by a classification procedure as following:

$$\text{Class limit (L)} = (X_{\max} - X_{\min}) / k = (5-1) / 5 = 0.8$$

$$\text{Class 1} = X_{\min} \text{ to } X_{\min} + L = 1.00 \text{ to } 1.00 + (0.80) = 1.00 \text{ to } 1.80$$

$$\text{Class 2} = X_{\min} + L \text{ to } X_{\min} + 2L = 1.81 \text{ to } 1.00 + (1.60) = 1.80 \text{ to } 2.60$$

$$\text{Class 3} = X_{\min} + 2L \text{ to } X_{\min} + 3L = 2.61 \text{ to } 1.00 + (2.40) = 2.61 \text{ to } 3.40$$

$$\text{Class 4} = X_{\min} + 3L \text{ to } X_{\min} + 4L = 3.41 \text{ to } 1.00 + (3.20) = 3.41 \text{ to } 4.20$$

$$\text{Class 5} = X_{\min} + 4L \text{ to } X_{\min} + 5L = 4.21 \text{ to } 1.00 + (4.00) = 4.21 \text{ to } 5.00$$

The descriptive statistics were used to analyze the data from Likert-type scale.

The means of participants' rating scores were described in 5-level meaning as Table 5.

Table 5 Meaning of the 5 Level Likert-Type Statements

Level	Mean Score	Importance	Appropriated	Satisfaction	Agreement	Adequacy
1	1.00 – 1.80	Very Unimportant	Absolutely Inappropriate	Very Dissatisfied	Strong Disagree	Very Inadequate
2	1.81 – 2.60	Unimportant	Inappropriate	Dissatisfied	Disagree	Inadequate
3	2.61 – 3.40	Neither Important or Unimportant	Neither Appropriate or Inappropriate	Unsure	Neither Agree or Disagree	Uncertain
4	3.41 – 4.20	Important	Appropriate	Satisfied	Agree	Adequate
5	4.21 – 5.00	Very important	Absolutely Appropriate	Very Satisfied	Strong Agree	More than Adequate

The fifth objective in the study was to describe differences between undergraduate students' attitude and graduate students' attitude toward distance learning system for Agricultural Extension programs. Non-parametric statistics were used to analyze the data set. Mann-Whitney U test was used to analyze the data. The model of data analysis is shown as Figure 17.

### Focus Group Analysis

The second procedure of this study was qualitative procedures that were used to describe knowledge, experience, and opinion of participants. Qualitative research is a type of social research based on field observations that is analyzed without statistics (Jackson, 2010). In addition, Jackson (2010) stated that focus group interview is a method of interviewing individuals at the same time, and is a flexible methodology that permits the gathering of a large amount of information from many people in a fairly short amount of time. The questions asked of the participants are open ended and addressed to the whole group.

In this study, focus groups were used to collect the qualitative data. Based on the four factors that relate to the attitude of Thai instructors and students toward a distance learning system for agricultural extension programs, the focus group script was constructed to relate to the four factors as presented in Figure 19. Fifteen undergraduate students and fifteen graduate students from the Professional Experience in Agricultural Extension classes and the Thesis classes respectively were randomly selected for focus groups.

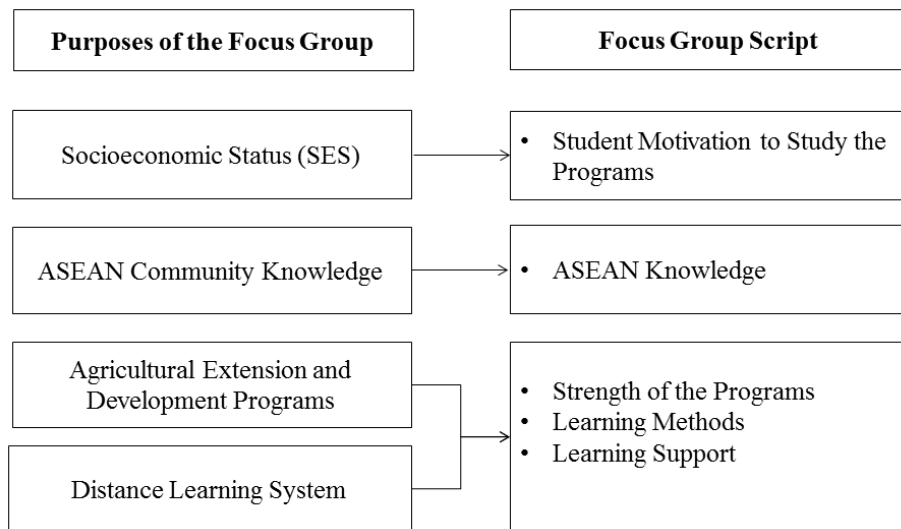


Figure 19 Conceptual Framework of the Focus Group

After the literature review, the focus group script was constructed. After a brief introduction to the study and stating the guidelines to be followed during the focus group, a series of four classes of questions were asked. The first set of questions addressed the participants' experience at STOU and their perceptions of agriculture and the ASEAN community. The second set of questions determined how prepared students were for

participating in the ASEAN community. The third set of questions assessed the strengths and weaknesses of the program. The final set of questions collected additional perspectives wish to add and help summarize group comments. The details of focus group script are presented In Table 6.

Table 6 Focus Group Script

Question Type	Time (minutes)	Purpose	Script
1. Opening	5	- Participants get acquainted and feel connected	- Researcher introduction - Study purposes - Rules for focus group - Participants introduction
2. Introductory	10	- Begins discussion of topic	- Question about what motivate students to study the programs - Question about what the strength of the programs
3. Transition	5	- Moves smoothly into key questions	- Question about ASEAN knowledge
4. Key Questions	20	- Obtains insight on the central areas of the study	- Question about learning methods - Question about learning support
5. Ending	5	- Helps researchers determine where to place emphasis and bring closure to the discussion	- Missing any important perspectives - Adequate summary

Content validity was used for focus group script measures. The ideas for this study were generated from several studies, and the researcher had constructed several statements to reflect attitudes from the researcher's experience. After the researcher constructed the script, it was evaluated and assessed by professors who hold a Ph.D. in the field of agricultural and extension education from Mississippi State University and Sukhothai Thammathirat Open University. In addition, the translation of Thai questions

was evaluated by STOU professors in the field of agricultural extension and development.

For data collection, after the Professional Experience in Agricultural Extension classes and the Thesis classes, 15 undergraduate students and 15 Master's degree students were randomly selected to participate in their respective focus groups. The focus group script was used to guide the focus groups. Flip charts and note cards were used to more fully capture focus groups discussion.

After focus group, the qualitative data were summarized, analyzed, and write conclusion. To meet the purpose of the study, the qualitative data was analyzed and coded in categories or outcomes.

## CHAPTER IV

### FINDINGS

This chapter focuses on the findings of the study. The purpose of this study was to determine the attitudes of instructors and students in a Thai Open University toward distance learning systems for Agricultural Extension and Development programs for participating in the ASEAN community. This chapter is divided into seven sections.

The first section presents the findings related to research question 1 “What was the socioeconomic status of instructors and students at Sukhothai Thammathirat Open University that offer Agricultural Extension and Development Programs?”

The second section presents the findings related to research question 2 “Did students at Sukhothai Thammathirat Open University have accurate knowledge about the ASEAN Community?”

The third section presents the findings related to research question 3 “What were the attitudes of undergraduate, graduate students, and instructors at Sukhothai Thammathirat Open University toward Agricultural Extension and Development programs?”

The fourth section presents the findings related to research question 4 “What were the attitudes of undergraduate, graduate students, and instructors at Sukhothai Thammathirat Open University toward distance learning systems for Agricultural Extension and Development programs?”

The fifth section presents the findings related to research question 5 “Was there a difference between the attitudes of undergraduate students and graduate students towards distance learning system for Agricultural Extension and Development programs?”

The sixth section presents the finding related to the participants’ suggestions on the STOU program and distance learning system, and the seventh section presents the results related to the focus group analysis.

### **Socioeconomic Status of Instructors and Students**

Research question one sought to determine the socioeconomic characteristics of instructors and students at Sukhothai Thammathirat Open University (STOU) that offers Agricultural Extension and Development programs. All students were described by the following characteristics: (1) gender, (2) age, (3) region of residence, (4) occupation, (5) work status, (6) years of work experience, (7) marital status, (8) monthly income, (9) learning expense per semester, (10) years at STOU, and (11) years in distance learning system. The descriptive statistics are shown in Table 7.

### **Socioeconomic Characteristics of Undergraduate Students**

#### *Gender, age, marital status, and region of residence*

Of the 251 undergraduate students who responded in the study, 62 percent were male and 38 percent were female. Seventy-two percent were 30 - 49 years old and 20 percent were 18 -29 years old. Only 1 percent was over 65 years old. Fifty-five percent were married and 36 percent were single. Only 5 percent were divorced or widowed. Twenty-three percent were from the central region of Thailand, 21 percent were from the northeast region, and only 1 percent was from the western region of Thailand.



### *Occupation, work status, and work experience*

Forty-four percent of undergraduate students were employed in private industries and 17 percent were agriculturists (farmers). Only 4 percent were agricultural extension agents and 4 percent were non-occupation workers (unemployed).

When asked about their work status, 27 percent worked with private companies, 26 percent worked with government agencies, 20 percent worked as an employer (self-employed) and 15 percent worked in the family business. Only 8 percent were unpaid family workers and 2 percent worked with cooperatives.

The average work experience of undergraduate students was 12.45 years ( $SD = 7.46$ ). Fifty-two percent had between 0 - 10 years of work experience and 36 percent had between 11 - 20 years of work experience. Only 2 percent had work experience between 31 - 40 years.

### *Monthly income and learning expense*

Twenty-four percent of the undergraduate students earned a monthly income between 12,001 - 15,000 baht and 19 percent earned between 9,001 - 12,000 baht. Only 4 percent earned 3,001-6,000 baht and 4 percent earned equal to or less than 3,000 baht per month. When asked about the learning expenses per semester, 81 percent spent 5,000 baht or less and 14 percent spent 5,001 - 10,000 baht per semester on educational expenses.

### *Experience at STOU and distance learning education*

Undergraduate students had an average of 4.05 years ( $SD = 2.10$ ) at STOU. Forty-two percent had between 3 - 4 years of experience at STOU, 28 percent had between 1 - 2

years of experience at STOU, and 18 percent had between 5 - 6 years of experience at STOU. Only 1 percent had experience at STOU over 10 years.

When asked about their experience in distance learning education, undergraduate students had an average of 4.29 years ( $SD = 2.38$ ) of experience. Forty percent had experience in distance learning education between 3 - 4 years, 26 percent had experience between 1 - 2 years, and 20 percent had experience between 5 - 6 years. Only 6 percent had experience equal to or greater than 9 years.

### **Socioeconomic Characteristics of Master's Degree Students**

#### *Gender, age, marital status, and region of residence*

Of the 104 Master's degree students who responded in the study, 72 percent were female and 28 percent were male. Eighty-three percent were between 30 - 49 years old and 15 percent were between 18 - 29 years old. Only 2 percent were between 50 - 64 years old. Fifty-five percent were single and 41 percent were married. Only 2 percent were divorced or widowed. Twenty-five percent were from the northeast region of Thailand, 21 percent were from the north region of Thailand, and only 7 percent were from Bangkok.

#### *Occupation, work status, and work experience*

Eighty-six percent of the Master's degree students were agricultural extension agents and 10 percent were government officers. Only 2 percent were agriculturists (farmers) and 2 percent were employed in private industries.

When asked about their work status, 97 percent worked with the government. Only 1 percent worked with private companies, 1 percent worked in their own account workers (family business), and 1 percent worked with cooperatives.

The average work experience of Master's degree students was 9.17 years ( $SD = 6.35$ ). Seventy-five percent had work experience between 0 - 10 years and 18 percent had work experience between 11 - 20 years. Only 2 percent had work experience between 31 - 40 years.

#### *Monthly income and learning expense*

Sixty-five percent of the Master's degree students earned a monthly income between 15,001 - 18,000 baht, 11 percent earned between 9,001 - 12,000 baht, and 11 percent earned between 15,001 - 18,000 baht. Only 2 percent earned 9,001- 12,000 baht per month.

When asked about their learning expenses per semester, 29 percent spent between 25,001 – 30,000 baht and 26 percent spent between 35,001 - 35,000 baht per semester. Only 4 percent spent between 10,001- 15,000 baht per semester.

#### *Experience at STOU and distance learning education*

The average experience of Master's degree students at STOU was 2.00 years ( $SD = .75$ ). Eighty-nine percent had between 1 - 2 years of experience at STOU and 9 percent had between 3 - 4 years of experience at STOU. Only 2 percent had between 5 - 6 years of experience at STOU.

When asked about their experience in distance learning education, the average experience of a Master's degree student in distance learning education was 2.00 years

( $SD = .75$ ). Eighty-one percent had experience between 1 - 2 years and 12 percent had experience between 3 - 4 years. Only 1 percent had experience between 7 - 8 years.

### **Socioeconomic Characteristics of Doctoral Students**

#### *Gender, age, marital status, and region of residence*

Of the 9 doctoral students who responded in the study, 78 percent were male and 22 percent were female. Sixty-seven percent were between 30 - 49 years old and 33 percent were between 50 - 64 years old. Seventy-eight percent were married and 22 percent were single. Fifty-six percent were from the northeast region of Thailand, 22 percent were from the south region of Thailand, 11 percent were from the central region of Thailand, and 11 percent were from Bangkok.

#### *Occupation, work status, and work experience*

Fifty-six percent of the doctoral students were government officers. Twenty-two percent were agricultural extension agents and 22 percent were employed in private industries. When asked about their work status, 78 percent worked with government agencies and 22 percent were private employees (worked in family business).

The average work experience of doctoral students was 19.22 years ( $SD = 9.49$ ). Thirty-three percent had between 11 - 20 years of work experience, 33 percent had between 21 - 30 years of work experience, and 22 percent had between 0 - 10 years of work experience. Only 12 percent had between 31 - 40 years of work experience.

#### *Monthly income and learning expense*

Sixty-seven percent of the doctoral students earned a monthly income of over 24,000 baht, and 22 percent earned between 21,001 - 24,000 baht. Only 11 percent

earned between 15,001- 18,000 baht per month. When asked about their learning expenses per semester, all doctoral students spent over 24,000 baht per semester.

### *Experience at STOU and distance learning education*

The average experience of the doctoral students at STOU was 2.56 years ( $SD = .53$ ). Fifty-six percent had between 3 - 4 years of experience at STOU and 44 percent had between 1 - 2 years of experience at STOU.

When asked about their experience in distance learning education, doctoral students had 3.89 years ( $SD = 2.15$ ) of experience. Forty-five percent had between 1 - 2 years, twenty-two percent had between 5 - 6 years of experience and 22 percent had between 7 - 8 years of experience. Only 11 percent had between 3 - 4 years of experience in distance learning education.

Table 7 Frequency and Percentage of Socioeconomic Characteristics of Students

Socioeconomic Characteristic	Undergraduate Students (n = 251)		Master's Students (n = 104)		Doctoral Students (n = 9)	
	f	%	f	%	f	%
<b>1. Gender</b>						
Male	155	62	29	28	7	78
Female	96	38	75	72	2	22
<b>2. Age</b>						
18 – 29	52	20	16	15	0	0
30 – 49	181	72	86	83	6	67
50 - 64	17	7	2	2	3	33
Over 65	1	1	0	0	0	0
<b>3. Marital Status</b>						
Single	92	36	57	55	2	22
Married	133	53	43	41	7	78
Divorced/Widowed	12	5	2	2	0	0
No Answer	14	6	2	2	0	0
<b>4. Region</b>						
North	48	19	22	21	0	0
Northeast	52	21	26	25	5	56
Central	59	23	12	11	1	11
East	33	13	10	10	0	0
West	3	1	8	8	0	0
South	22	9	19	18	2	22
Bangkok	34	14	7	7	1	11
<b>5. Occupation</b>						
Agent	11	4	90	86	2	22
Agriculturist (farmer)	43	17	2	2	0	0
Officer (government)	39	15	10	10	5	56
Employee (private)	110	44	2	2	2	22
Trader	37	15	0	0	0	0
Non Occupation (unemployed)	9	4	0	0	0	0
No Answer	2	1	0	0	0	0
<b>6. Work Status</b>						
Employer (self-employed)	37	15	0	0	0	0
Government Employee	66	26	101	97	7	78
Private Employee (private business)	68	27	1	1	2	22
Own Account Worker (family business)	49	20	1	1	0	0
Unpaid Family Worker (unemployed)	21	8	0	0	0	0
Cooperatives' worker	4	2	1	1	0	0
No Answer	6	2	0	0	0	0
<b>7. Year of Work Experience</b>						
0 – 10	132	52	78	75	2	22
11 – 20	90	36	19	18	3	33
21 – 30	24	10	5	5	3	33
31 – 40	5	2	2	2	1	12
<b>8. Monthly Income (Baht)</b>						
Equal or less than 3,000	11	4	0	0	0	0
3,001-6,000	9	4	0	0	0	0
6,001-9,000	27	11	0	0	0	0
9,001-12,000	49	19	2	2	0	0
12,001-15,000	60	24	11	11	0	0
15,001-18,000	28	11	68	65	1	11
18,000-21,000	17	7	12	11	0	0
21,001-24,000	12	5	4	4	2	22
Over 24,000	38	15	7	7	6	67

Table continues

Table 7 (continued)

Socioeconomic Characteristic	Undergraduate Students (N = 251)		Graduate Students (N = 104)		Doctoral Students (N = 9)	
	f	%	f	%	f	%
9. Learning Expense per Semester (Baht)						
Equal or less than 5,000	207	81	0	0	0	0
5,001 – 10,000	36	14	0	0	0	0
10,001 - 15,000	1	1	4	4	0	0
15,001 - 20,000	3	1	6	6	0	0
20,001 - 25,000	2	1	18	17	0	0
25,001 - 30,000	1	1	30	29	0	0
30,001 - 35,000	1	1	27	26	0	0
35,001 – 40,000	0	0	14	13	0	0
Over 40,000	0	0	5	5	9	100
10. Years at Sukhothai Thammathirat Open University						
1 – 2	69	28	93	89	4	44
3 – 4	106	42	9	9	5	56
5 - 6	45	18	2	2	0	0
7 – 8	23	9	0	0	0	0
9 - 10	6	2	0	0	0	0
Over 10	2	1	0	0	0	0
11. Years in Distance Learning						
1 – 2	65	26	84	81	4	45
3 – 4	100	40	13	12	1	11
5 - 6	51	20	6	6	2	22
7 – 8	20	8	1	1	2	22
9 - 10	8	3	0	0	0	0
Over 10	7	3	0	0	0	0

### Greatest Learning Expense

All students were asked to rank the cost of educational expenses they incurred from their greatest expense to their least costly expense. Undergraduate students ranked “text books” ( $M = 1.18$ ) and “tuition” ( $M = 2.91$ ) as their greatest learning expenses. They ranked “communication” ( $M = 4.98$ ) and “other expenses” ( $M = 6.87$ ) as their least costly learning expenses.

Master’s degree students indicated “tuition” ( $M = 1.33$ ) was their greatest learning expense. They ranked “communication” ( $M = 5.57$ ) and “other expenses” ( $M =$

6.99) as their least costly learning expenses. Doctoral students ranked tuition ( $M = 1.00$ ) as their greatest learning expense and ranked “communication” ( $M = 5.33$ ) and “other expenses” ( $M = 7.00$ ) as their least costly learning expenses. This data is presented in Table 8.

Table 8 Ranking of Learning Expenses from Greatest Expense to Least Expense by Students

Educational Expenses	Undergraduate Students ( $n = 251$ )		Master's Degree Students ( $n = 104$ )		Doctoral Students ( $n = 9$ )	
	Rank	Mean	Rank	Mean	Rank	Mean
1. Tuition	2	2.91	1	1.33	1	1.00
2. Traveling	3	3.31	2	2.59	2	2.89
3. Accommodation	3	3.31	3	3.29	2	2.89
4. School supply	5	4.74	5	4.92	5	4.89
5. Text book	1	1.88	4	3.32	4	4.00
6. Communication	6	4.98	6	5.57	6	5.33
7. Other (food)	7	6.87	7	6.99	7	7.00

### Socioeconomic Characteristics of STOU Instructors

Table 9 illustrates the socioeconomic characteristics of ten instructors who teach in the Agricultural Extension and Development Program at STOU. For the 10 instructors who responded in the study, 60 percent were male and 40 percent were female. An equal number of the instructors (50 percent) indicated they were between the ages of 30 - 49 and 50 - 64 years old. Sixty percent were associate professors and 40 percent were instructors. When asked about their highest educational level, 60 percent of the instructors indicated they had a doctoral degree and 40 percent had a Master's degree.

The average work experience of instructors was 23.70 years ( $SD = 12.70$ ). Forty percent had between 31 - 40 years of work experience and 30 percent had between 11 -



20 years of work experience. Regarding their experience in distance learning education, the average years of experience in distance learning education was 16.70 years ( $SD = 12.59$ ). Forty percent had between 0 - 10 years of experience. Twenty percent had between 11 - 20 years, 20 percent had between 21 - 30 years, and 20 percent had between 31 - 40 years of experience.

Table 9 Frequency and Percentage of Socioeconomic Characteristics of Instructors

Socioeconomic Characteristic	Instructor ( $n = 10$ )	
	$f$	%
1. Gender		
Male	6	60
Female	4	40
2. Age		
30 – 49	5	50
50 - 64	5	50
3. Work Status		
Instructor	4	40
Associate Professor	6	60
4. Highest educational level		
Master's degree	4	40
Doctoral degree	6	60
5. Years of Work Experience		
0 – 10	2	20
11 – 20	3	30
21 – 30	1	10
31 – 40	4	40
6. Years in Distance Learning Education		
0 – 10	4	40
11 – 20	2	20
21 – 30	2	20
31 – 40	2	20

## Distance Learning Devices

### *Having distance learning devices*

Students were asked about having the necessary devices to participate in distance learning. Of the 251 undergraduate students responding in the study, 96% reported they

had electricity, 96% had a television, 94% had a VCD player, 90% had a DVD player, and 88% had a personal computer. However, only 38% of the undergraduate students indicated they had a room for study.

Of the 104 Master's degree students responding in the study, 98% reported they had a personal computer, 97% had internet access, 96% had electricity, 95% had an e-mail address, and 89% had a television. Only 32 percent of Master's degree students indicated they had a cassette player.

One hundred percent of the doctoral students had electricity, a radio, a compact disc player, an mp3 player, a television, a VCD player, a DVD player, a personal computer, the internet, and a smart phone or tablet. Only 67 % of the doctoral students indicated they had a room for study. The details are presented in Table 10.

Table 10 Frequency and Percentage of Students Having Distance Learning Devices

Devices	Undergraduate Students (n = 251)		Master's Degree Students (n = 104)		Doctoral Students (n = 9)	
	f	%	f	%	f	%
1. Electricity	242	96	100	96	9	100
2. Radio	182	73	64	62	9	100
3. Cassette player	142	57	33	32	8	89
4. Compact Disc player	202	81	66	64	9	100
5. Mp3 player	199	80	73	70	9	100
6. Television	239	96	92	89	9	100
7. Video tape player	175	70	50	48	8	89
8. VCD player	236	94	85	82	9	100
9. DVD player	227	90	84	81	9	100
10. Personal Computer	222	88	102	98	9	100
11. Internet access	209	83	101	97	8	89
12. Satellite receiver	175	70	48	46	7	78
13. Smart phone or tablet	156	62	79	76	8	100
14. A room for study	94	38	56	54	6	67
15. e-mail address	171	68	99	95	8	89

### *Importance of devices for distance learning Education*

All students and instructors were asked to indicate how important each device was for distance learning education using the following scale: 1 = Very Unimportant, 2 = Unimportant, 3 = Neither Important or Unimportant, 4 = Important, and 5 = Very important. Undergraduate students rated that “*internet access*” ( $M = 4.62, SD = .75$ ), “*electricity*” ( $M = 4.59, SD = .84$ ), and having “*a personal computer*” ( $M = 4.49, SD = .78$ ) were very important devices to have for distance learning education. In addition, they reported that having “*a satellite receiver*” ( $M = 4.05, SD = 1.00$ ), “*an e-mail address*” ( $M = 4.05, SD = 1.04$ ), “*a DVD player*” ( $M = 3.95, SD = 1.00$ ), “*a smart phone or tablet*” ( $M = 3.94, SD = 1.05$ ), “*a VCD player*” ( $M = 3.91, SD = .98$ ), “*a compact disc player*” ( $M = 3.83, SD = .95$ ), “*a room for study*” ( $M = 3.66, SD = 1.12$ ), “*an mp3 player*” ( $M = 3.62, SD = 1.04$ ), “*a video tape player*” ( $M = 3.49, SD = 1.15$ ), “*a radio*” ( $M = 3.47, SD = 1.10$ ), and “*a television*” ( $M = 3.47, SD = 1.10$ ) were important devices to have for distance learning education. “*The cassette tape player*” was the only device rated neither as an important or unimportant device ( $M = 3.06, SD = 1.19$ ) to have by undergraduate students for distance learning education.

Master’s degree students indicated that having “*electricity*” ( $M = 4.83, SD = 0.70$ ), “*a personal computer*” ( $M = 4.82, SD = 0.69$ ), “*internet access*” ( $M = 4.80, SD = 0.73$ ), “*an e-mail address*” ( $M = 4.60, SD = 0.78$ ), and “*a smart phone or tablet*” ( $M = 4.22, SD = 0.93$ ) were very important for distance learning education. They also rated having “*a satellite receiver*” ( $M = 4.06, SD = 1.10$ ), “*a television*” ( $M = 3.88, SD = 1.10$ ), “*a room for study*” ( $M = 3.66, SD = 1.12$ ), “*a DVD player*” ( $M = 3.57, SD = 1.00$ ), “*a VCD player*” ( $M = 3.54, SD = .98$ ), and “*an mp3 player*” ( $M = 3.41, SD =$

1.04) were important for distance learning education. “*The cassette tape player*” was the only device that they rated as an unimportant device ( $M = 2.42, SD = 1.04$ ) for distance learning education.

Doctoral students responded that having “*electricity*” ( $M = 4.89, SD = 0.33$ ), “*a personal computer*” ( $M = 4.89, SD = 0.33$ ), “*internet access*” ( $M = 4.67, SD = 1.00$ ), “*an e-mail address*” ( $M = 4.56, SD = 0.88$ ), “*a television*” ( $M = 4.22, SD = 0.83$ ), and “*a smart phone or tablet*” ( $M = 4.22, SD = 0.97$ ) were very important for distance learning education. They also rated “*a VCD player*” ( $M = 4.11, SD = .93$ ), “*a DVD player*” ( $M = 4.11, SD = .93$ ), “*a satellite receiver*” ( $M = 3.89, SD = 1.36$ ), “*an mp3 player*” ( $M = 3.78, SD = 1.09$ ), “*a room for study*” ( $M = 3.78, SD = 1.39$ ), and “*a compact disc player*” ( $M = 3.67, SD = 1.12$ ) were important devices to have for distance learning education. In contrast, having “*a radio*” ( $M = 2.67, SD = 1.58$ ), “*a cassette player*” ( $M = 2.78, SD = 1.30$ ), and “*a video tape player*” ( $M = 3.33, SD = 1.32$ ) were neither important or unimportant devices for distance learning education.

Instructors indicated that very important devices to have for distance learning education were “*electricity*” ( $M = 4.90, SD = 0.32$ ), “*a personal computer*” ( $M = 4.80, SD = 0.42$ ), “*internet access*” ( $M = 4.90, SD = 0.32$ ), and “*an e-mail address*” ( $M = 4.70, SD = 0.48$ ). They also reported having “*a television*” ( $M = 4.10, SD = .74$ ), “*a smart phone or tablet*” ( $M = 4.10, SD = .99$ ), “*a DVD player*” ( $M = 4.00, SD = .94$ ), “*a VCD player*” ( $M = 3.90, SD = .88$ ), “*a satellite receiver*” ( $M = 3.90, SD = 1.45$ ), “*an mp3 player*” ( $M = 3.60, SD = 1.08$ ), and “*a compact disc player*” ( $M = 3.50, SD = 1.08$ ) were important devices for distance learning education. “*The video tape player*” was the

only device that they rated as an unimportant device ( $M = 2.40$ ,  $SD = 1.17$ ) to have for distance learning education.

Overall, students and instructors indicated that very important devices to have for distance learning education were “internet access” ( $M = 4.68$ ,  $SD = 0.74$ ), “electricity” ( $M = 4.67$ ,  $SD = 0.79$ ), “a personal computer” ( $M = 4.60$ ,  $SD = 0.77$ ), and “an e-mail address” ( $M = 4.23$ ,  $SD = 0.99$ ). In contrast, having “a cassette player” ( $M = 2.87$ ,  $SD = 1.19$ ), “a radio” ( $M = 3.27$ ,  $SD = 1.14$ ), and “a video tape player” ( $M = 3.35$ ,  $SD = 1.19$ ) were neither important or unimportant devices for distance learning education.

Descriptive statistics are shown in Table 11.

Table 11 Students and Instructors Rating of Importance of Devices for Distance Learning

Devices for Distance Learning	Undergraduate Students ( $n = 251$ )		Master's Degree Students ( $n = 104$ )		Doctoral students ( $n = 9$ )		Instructors ( $n = 10$ )		Total ( $n = 374$ )	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
	1. Electricity	4.59	.84	4.83	.70	4.89	.33	4.90	.32	4.67
2. Radio	3.47	1.10	2.83	1.07	2.67	1.58	3.40	.84	3.27	1.14
3. Cassette player	3.06	1.19	2.42	1.04	2.78	1.30	2.70	1.25	2.87	1.19
4. Compact Disc player	3.83	.95	3.38	1.05	3.67	1.12	3.50	1.08	3.69	1.00
5. Mp3 player	3.62	1.04	3.41	1.04	3.78	1.09	3.60	1.08	3.57	1.04
6. Television	4.11	.98	3.88	1.04	4.22	.83	4.10	.74	4.05	.99
7. Video tape player	3.49	1.15	3.11	1.20	3.33	1.32	2.40	1.17	3.35	1.19
8. VCD player	3.91	.98	3.54	1.04	4.11	.93	3.90	.88	3.81	1.00
9. DVD player	3.95	1.00	3.57	1.04	4.11	.93	4.00	.94	3.85	1.00
10. Personal Computer	4.49	.78	4.82	.69	4.89	.33	4.80	.42	4.60	.77
11. Internet access	4.62	.75	4.80	.73	4.67	1.00	4.90	.32	4.68	.74
12. Satellite receiver	4.05	1.00	4.06	1.10	3.89	1.36	3.90	1.45	4.05	1.05
13. Smart phone or tablet	3.94	1.05	4.22	.93	4.22	.97	4.10	.99	4.03	1.02
14. A room for study	3.66	1.12	4.13	1.07	3.78	1.39	3.20	1.23	3.78	1.14
15. e-mail address	4.05	1.04	4.60	.78	4.56	.88	4.70	.48	4.23	.99
Total	3.92	.63	3.84	.56	3.97	.60	3.87	.53	3.90	.61

Note 1.00 – 1.80 = Very Unimportant, 1.81 – 2.60 = Unimportant, 2.61 – 3.40 = Neither Important or Unimportant, 3.41 – 4.20 = Important, and 4.21 – 5.00 = Very important

### *Distance-learning technology skills*

All students and instructors were asked to rate 10 distance learning technology skills with regard to their self-perceived ability to use these skills. The respondents rated their ability using the following scale: 1 = Poor, 2 = Below Average, 3 = Average, 4 = Above Average, and 5 = Excellent. Table 12 presents the self-reported ability of students and instructors toward their distance learning technology skills.

Undergraduate students rated that they had above average distance learning technology skills in the following areas: “*internet systems*” ( $M = 3.88, SD = 1.06$ ), “*video devices*” ( $M = 3.69, SD = 1.02$ ), “*computer devices*” ( $M = 3.66, SD = 1.11$ ), “*audio devices*” ( $M = 3.64, SD = .96$ ), and “*social networks*” ( $M = 3.55, SD = 1.05$ ). In contrast, undergraduate students indicated that their “*English skills*” were below average ( $M = 2.50, SD = 1.10$ ).

Graduate students pursuing a Master’s Degree responded that they had excellent “*internet systems*” skills ( $M = 4.27, SD = 0.77$ ). They also rated that they had above average skills regarding “*electronic mail*” ( $M = 4.18, SD = .80$ ), “*social networks*” ( $M = 4.14, SD = .86$ ), “*computer devices*” ( $M = 4.04, SD = .82$ ), “*word processing programs*” ( $M = 3.95, SD = .84$ ), “*presentation programs*” ( $M = 3.83, SD = .83$ ), “*video devices*” ( $M = 3.79, SD = .80$ ), and “*audio devices*” ( $M = 3.77, SD = .84$ ). They also indicated that their skills with “*satellite devices*” ( $M = 2.90, SD = 1.10$ ) and their “*English skills*” ( $M = 2.67, SD = .82$ ) were average.

Doctoral students indicated that their skills in “*word processing programs*” were excellent ( $M = 4.22, SD = 0.83$ ). They also rated that they had above average skills in “*internet systems*” ( $M = 4.11, SD = 0.78$ ), “*electronic mail*” ( $M = 4.11, SD = .93$ ),

“audio devices” ( $M = 4.00, SD = .87$ ), “computer devices” ( $M = 4.00, SD = .71$ ), “social networks” ( $M = 4.00, SD = .71$ ), “presentation programs” ( $M = 4.00, SD = .71$ ), “video devices” ( $M = 3.89, SD = .78$ ), and “English skills” ( $M = 3.67, SD = .71$ ). They indicated that their skills with “satellite devices” ( $M = 2.89, SD = .60$ ) were average.

Instructors responded that they had excellent skills in “electronic mail” ( $M = 4.70, SD = 0.48$ ), “internet systems” ( $M = 4.50, SD = 0.53$ ), “social networks” ( $M = 4.50, SD = 0.53$ ), “presentation programs” ( $M = 4.40, SD = 0.52$ ), “computer devices” ( $M = 4.30, SD = 0.48$ ), and “word processing programs” ( $M = 4.30, SD = 0.48$ ). They also rated that they had above average skills in “audio devices” ( $M = 4.20, SD = .79$ ), “video devices” ( $M = 4.00, SD = .67$ ), and “English skills” ( $M = 3.90, SD = .74$ ). They indicated that their skills with “satellite devices” ( $M = 2.50, SD = 1.08$ ) were below average.

Table 12 Self-Perceived Ability of Students and Instructors with Distance Learning Technology Skills

Distance Learning Technology Skills	Undergraduate Students ( $n = 251$ )		Master's Degree Students ( $n = 104$ )		Doctoral students ( $n = 9$ )		Instructors ( $n = 10$ )		Total ( $N = 374$ )	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
	1. Audio devices	3.64	.96	3.77	.84	4.00	.87	4.20	.79	3.70
2. Video devices	3.69	1.02	3.79	.80	3.89	.78	4.00	.67	3.73	.95
3. Satellite devices	2.95	1.22	2.90	1.10	2.89	.60	2.50	1.08	2.93	1.17
4. Computer devices	3.66	1.11	4.04	.82	4.00	.71	4.30	.48	3.79	1.03
5. Internet systems	3.88	1.06	4.27	.77	4.11	.78	4.50	.53	4.01	.98
6. Electronic mail	3.33	1.21	4.18	.80	4.11	.93	4.70	.48	3.62	1.16
7. Social networks	3.55	1.25	4.14	.86	4.00	.71	4.50	.53	3.75	1.16
8. Word processing programs	3.17	1.18	3.95	.84	4.22	.83	4.30	.48	3.44	1.14
9. Presentation programs	3.01	1.17	3.83	.83	4.00	.71	4.40	.52	3.30	1.14
10. English skills	2.50	1.10	2.67	.82	3.67	.71	3.90	.74	2.61	1.05
Total	3.34	.83	3.75	.66	3.89	.59	4.13	.36	3.49	.80

Note 1.00 – 1.80 = Poor, 1.81 – 2.60 = Below Average, 2.61 – 3.40 = Average, 3.41 – 4.20 = Above Average, 4.21 – 5.00 = Excellent

Overall, students and instructors responded that they had over average skills in “internet systems” ( $M = 4.01, SD = 0.98$ ), “computer devices” ( $M = 3.79, SD = 1.03$ ), “social networks” ( $M = 3.75, SD = 1.16$ ), “video devices” ( $M = 3.73, SD = .95$ ), “audio devices” ( $M = 3.70, SD = .92$ ), “electronic mail” ( $M = 3.62, SD = 1.16$ ), and “word processing programs” ( $M = 3.44, SD = 1.14$ ). They also rated that they had average skills in “presentation programs” ( $M = 3.30, SD = 1.14$ ), “satellite devices” ( $M = 2.93, SD = 1.17$ ), and “English skills” ( $M = 3.90, SD = .74$ ).

### **Findings Related to Research Question 2**

Research question two sought to determine accurate knowledge about the ASEAN Community that students at STOU have and the sources of the information where they learned about the ASEAN Community. Fifteen true or false questions were used to evaluate students’ knowledge about the ASEAN Community, AEC, and Open Universities in ASEAN countries. Table 13 presents the frequency and percentage of all students who got the correct answers about certain aspects of the ASEAN Community.

#### **Students’ Knowledge about the ASEAN Community**

Of the 251 undergraduate students who responded in the study, 94 percent got question 4 correct “*ASEAN was established to accelerate economic growth, promote regional peace and stability, and enhance cooperation on economic, social, cultural, technical, and educational matters among Southeast Asian countries*”. Eighty-six percent got question 8 correct “*The AEC will transform ASEAN into a region with free movement of goods, services, investment, skilled labor, and freer flow of capital*”. Eighty-six percent also got question 12 correct “*Life-long education is a principle of Open University*”.



Eighty-three percent got question 3 correct “*The working language of ASEAN shall be English*”, and 82 percent got question 15 correct “*ASEAN Study Program is the cooperative program among Open University in ASEAN*”. However, only 21 percent of the undergraduate students got the correct answer to question 9 “*The benefit of Thailand after AEC- joining is agricultural products such as rubber, coconut, coffee, and palm*”, 25 percent got question 5 correct “*The ASEAN Community is comprised of two pillars, namely the ASEAN Political-Security Community (APSC) and the ASEAN Economic Community (AEC)*”, and 26 percent got question 7 correct “*Strengthening ASEAN University Networking is one of four priorities of the AEC*”.

Of the 104 Master’s degree students who responded in the study, 95 percent got the correct answer to question 8 “*The AEC will transform ASEAN into a region with free movement of goods, services, investment, skilled labor, and freer flow of capital*”. Ninety-four percent got question 4 correct “*ASEAN was established to accelerate economic growth, promote regional peace and stability, and enhance cooperation on economic, social, cultural, technical, and educational matters among Southeast Asian countries*” and 92 percent got question 3 correct “*The working language of ASEAN shall be English*”. In contrast, only 28 percent of the Master’s degree students got the correct answer to question 7 “*Strengthening ASEAN University Networking is one of four priorities of the AEC*”.

Table 13 Frequency and Percentage of Correct Responses by Students Regarding Knowledge About the ASEAN Community

Questions	Correct Answer	Undergraduate Students (n = 251)		Master's Degree Students (n = 104)		Doctoral Students (n = 9)	
		f	%	f	%	f	%
		1. ASEAN was founded on August 8, 1967 in Thailand.	True	142	57	72	69
2. There are 11 countries that belong to ASEAN today.	False	150	60	86	83	8	89
3. The working language of ASEAN shall be English.	True	209	83	96	92	8	89
4. ASEAN was established to accelerate economic growth, promote regional peace and stability, and enhance cooperation on economic, social, cultural, technical, and educational matters among Southeast Asian countries.	True	235	94	98	94	9	100
5. The ASEAN Community is comprised of two pillars, namely the ASEAN Political-Security Community (APSC) and the ASEAN Economic Community (AEC).	False	63	25	69	66	7	78
6. A single market and production base is one of the goals of the AEC.	True	133	53	70	67	8	89
7. Strengthening ASEAN University Networking is one of four priorities of the AEC.	False	65	26	29	28	4	44
8. The AEC will transform ASEAN into a region with free movement of goods, services, investment, skilled labor, and freer flow of capital.	True	215	86	99	95	9	100
9. The benefit of Thailand after AEC- joining is agricultural product such as rubber, coconut, coffee, and palm.	False	52	21	45	43	2	22
10. If ASEAN were a single entity, it would rank as the ninth largest economy in the world.	True	151	60	46	44	3	33
11. Every ASEAN Country has Open University.	False	117	47	39	38	6	67
12. Life-long education is a principle of Open University.	True	215	86	93	89	8	89
13. Agriculture Programs are provided by every open university in ASEAN.	False	81	32	35	34	4	44
14. ASEAN Study Program is provided by Open University in Indonesia.	True	132	53	47	45	5	56
15. ASEAN Study Program is the cooperative program among Open University in ASEAN.	True	207	82	89	86	7	78

Finally, 100 percent of the doctoral students got the correct answer to question 4 “ASEAN was established to accelerate economic growth, promote regional peace and stability, and enhance cooperation on economic, social, cultural, technical, and educational matters among Southeast Asian countries” and question 8 “The AEC will

*transform ASEAN into a region with free movement of goods, services, investment, skilled labor, and freer flow of capital*". However, only 22 percent of doctoral students got the correct answer to question 9 "*The benefit of Thailand after AEC- joining is agricultural product such as rubber, coconut, coffee, and palm*". Descriptive statistics are shown in Table 13.

Table 14 shows the level of respondents' knowledge about the ASEAN Community. Sixty-nine percent of the undergraduate students had an average level of knowledge (7 - 9 correct answers) regarding the ASEAN community. Only 1 percent had an excellent level of knowledge (13 - 15 correct answers). Fifty-four percent of the Master's degree students had an above average level of knowledge (10 - 12 correct answers) and 40 percent had an average level of knowledge (7 - 9 correct answers). Only 1 percent had a below average level of knowledge (4 - 6 correct answers). For the 9 doctoral students, 56 percent had an above average level of knowledge (10 - 12 correct answers), 33 percent an average level of knowledge (7 - 9 correct answers), and 11 percent had an excellent average level of knowledge (13 - 15 correct answers).

Table 14 Students Level of Knowledge about the ASEAN Community

Level of Knowledge	Undergraduate Students (n = 251)		Master's Degree Students (n = 104)		Doctoral Students (n = 9)	
	f	%	f	%	f	%
0-3 (Poor)	0	0	0	0	0	0
4-6 (Below Average)	16	6	1	1	0	0
7-9 (Average)	172	69	42	40	3	33
10-12 (Above Average)	60	24	56	54	5	56
13-15 (Excellent)	3	1	5	5	1	11

### Factors of ASEAN Community that Affect STOU Programs

Instructors were asked to rate 21 factors of the ASEAN Community on how much these factors affect programs at STOU using the following scale: 1 = Absolutely Unaffected, 2 = Unaffected, 3 = Neutral, 4 = Affected, and 5 = Absolutely Affected. Instructors reported six factors absolutely affected STOU programs: “*educational exchanges among ASEAN countries*” ( $M = 4.60, SD = 0.70$ ), “*integration into global economy*” ( $M = 4.30, SD = 0.82$ ), “*cultural exchanges among ASEAN countries*” ( $M = 4.30, SD = 0.68$ ), “*economic cooperation among ASEAN countries*” ( $M = 4.30, SD = 0.68$ ), “*development assistance among ASEAN countries*” ( $M = 4.30, SD = 0.68$ ), and “*tourism among ASEAN countries*” ( $M = 4.30, SD = 0.68$ ). In contrast, instructors rated “*Sports Competitions among ASEAN countries*” as neutral. The descriptive statistics are shown in Table 15.

Table 15 Instructors' Rating on How Factors of the ASEAN Community Affect STOU Programs

Factors	Instructors' Attitude (n = 10)	
	M	SD
1. A rules-based community of shared values and norms	4.20	.63
2. A cohesive, peaceful and resilient region with shared responsibility for comprehensive security	3.90	.88
3. A dynamic and outward-looking region in an increasingly integrated and interdependent world	3.70	.95
4. Single market and production base	4.10	.99
5. Highly Competitive Economic Region	4.20	.92
6. Equitable Economic Development	4.00	.94
7. Integration into Global Economy	4.30	.82
8. Human Development	4.30	.68
9. Social Welfare and Protection	4.00	.94
10. Social Justice and Rights	4.00	.94
11. Environmental Sustainability	4.00	.94
12. Building an ASEAN Identity	4.20	.63
13. Narrowing the Development Gap	4.20	.42
14. Cultural Exchanges among ASEAN countries	4.30	.68
15. Economic Cooperation among ASEAN countries	4.30	.68
16. Development Assistance among ASEAN countries	4.30	.68
17. Educational Exchanges among ASEAN countries	4.60	.70
18. Security and Military Cooperation among ASEAN countries	3.60	.08
19. Political Cooperation among ASEAN countries	4.00	.67
20. Sports Competitions among ASEAN countries	3.40	.08
21. Tourism among ASEAN countries	4.30	.68

Note: 1.00 – 1.80 = Absolutely Unaffected, 1.81 – 2.60 = Unaffected, 2.61 – 3.40 = Neutral, 3.41 – 4.20 = Affected, 4.21 – 5.00 = Absolutely Affected

### Sources of Information where Participants Learned about ASEAN Community

Students and instructors were asked to multi-select sources of information where they learned about the ASEAN community. Ninety percent of the undergraduate students reported that they learned about the ASEAN community via “television”, 73 percent indicated “newspaper”, and 61 percent indicated “printed material”. Only 18 percent reported that they learned about the ASEAN community via “a community leader”.

Master's degree students indicated 88 percent learned about the ASEAN community via "television", 88 percent via "website", and 68 percent via "newspaper". Only 3 percent reported that they learned about the ASEAN community via "a community leader".

Doctoral students indicated 89 percent learned about the ASEAN community via "television", 89 percent via "website", and 78 percent via "educational institute". Eleven percent of doctoral students reported that they learned about the ASEAN community by "neighborhood", "a community leader", and "a government officer".

Finally, 100 percent of instructors reported that they learned about the ASEAN community via "educational institute" and "website". Only 20 percent reported that they learned about the ASEAN community via "neighborhood" and "community leader". The descriptive statistics are represented as Table 16.

Table 16 Frequency and Percentage of Students and Instructors Toward Sources of Information where Participants Learned about the ASEAN Community

Sources	Undergraduate Students (n = 251)		Master's Degree Students (n = 104)		Doctoral Students (n = 9)		Instructors (n = 10)	
	f	%	f	%	f	%	f	%
	1. Neighborhood	61	24	6	6	1	11	2
2. Community Leader	45	18	3	3	1	11	2	20
3. Government officer	90	36	63	61	1	11	6	60
4. Educational institute	147	59	64	62	7	78	10	100
5. Newspaper	182	73	71	68	6	67	6	60
6. Printed material	154	61	68	65	6	67	6	60
7. Radio broadcasting	119	47	34	33	3	33	6	60
8. Television	226	90	91	88	8	89	8	80
9. Website	172	69	91	88	8	89	10	100
10. Other (Experience)	2	1	2	2	0	0	0	0

### **Findings Related to Research Question 3**

Research question three sought to determine the attitudes of students and instructors at STOU toward the Agricultural Extension and Development programs for participating in the ASEAN community. The students and instructors were asked to rate Likert-type statements about:

1. Their attitude toward factors when considering to study in STOU Agricultural Extension and Development programs (5 factors).
2. Their attitude toward delivery channels for STOU programs (6 channels).
3. Their attitude toward distance learning methods used in STOU Agricultural Extension and Development programs (8 methods).
4. Their attitude toward agreement with the curriculum for STOU Agricultural Extension and Development programs (10 topics).
5. Their attitude toward applicant qualifications when students apply for STOU Agricultural Extension and Development programs (3 programs).
6. Their attitude toward the program objectives for STOU Agricultural Extension and Development programs when participating in the ASEAN community (3 programs).
7. Their attitude toward the program structure for STOU Agricultural Extension and Development programs when participating in the ASEAN community (3 programs).

### **Factors when Considering to Study in STOU Programs**

This segment of the study sought to define the attitudes of respondents about the importance of the factors when considering to study in STOU programs. Undergraduate

and graduate students and instructors were asked to rate 5 items regarding factors to consider when studying in STOU programs using the following scale: 1. = Very Unimportant, 2 = Unimportant, 3 = Neither Important or Unimportant, 4 = Important, 5 = Very Important. The descriptive statistics are shown in Table 17.

Undergraduate students reported that 4 of the 5 factors were very important when considering to study in STOU programs. The factors were “*I want to upgrade my educational qualifications*” ( $M = 4.53, SD = .74$ ), “*I can study without taking time out from working*” ( $M = 4.46, SD = .85$ ), “*The program is useful for my job*” ( $M = 4.43, SD = .78$ ), and “*The program is affordable*” ( $M = 4.39, SD = .90$ ). They also rated “*I can study in other educational institutions at the same time*” as an important factor ( $M = 3.80, SD = 1.20$ ).

Master’s degree students also reported 4 of the 5 factors as very important factors. These factors were “*The program is useful for my job*” ( $M = 4.81, SD = .42$ ), “*I can study without taking time out from working*” ( $M = 4.77, SD = .49$ ), “*I want to upgrade my educational qualifications*” ( $M = 4.55, SD = .87$ ), and “*The program is affordable*” ( $M = 4.39, SD = .86$ ). In contrast, they rated “*I can study in other educational institutions at the same time*” as neither an important or unimportant factor to consider ( $M = 3.05, SD = 1.31$ ).

Doctoral students rated that 4 of the 5 factors were very important factors. These factors were “*I want to upgrade their educational qualifications*” ( $M = 4.89, SD = .33$ ), “*The program is useful for my job*” ( $M = 4.89, SD = .33$ ), “*I can study without taking time out from working*” ( $M = 4.67, SD = .50$ ), “*The program is affordable*” ( $M = 4.44, SD =$



.73). They also rated “*I can study in other educational institutions at the same time*” ( $M = 3.22$ ,  $SD = 1.48$ ) as neither an important or unimportant factor.

Table 17 Importance of Factors by Students and Instructors when Considering to Study in the STOU Agricultural Extension Program

Factors	Undergraduate Students ( $n = 251$ )		Master's Degree Students ( $n = 104$ )		Doctoral students ( $n = 9$ )		Instructors ( $n = 10$ )		Total ( $N = 374$ )	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
	1. I want to upgrade my educational qualifications	4.53	.74	4.55	.87	4.89	.33	4.70	.48	4.55
2. I can study without taking time out from working	4.46	.85	4.77	.49	4.67	.50	5.00	0.0	4.56	.76
3. I can study in other educational institutions at the same time	3.80	1.20	3.05	1.31	3.22	1.48	3.90	.74	3.58	1.27
4. The program is useful for my job	4.43	.78	4.81	.42	4.89	.33	4.50	.53	4.55	.71
5. The program is affordable	4.39	.90	4.39	.86	4.44	.73	4.30	.82	4.39	.88
Total	4.32	.59	4.31	.46	4.42	.42	4.48	.39	4.32	.55

Note: 1.00 – 1.80 = Very Unimportant, 1.81 – 2.60 = Unimportant, 2.61 – 3.40 = Neither Important or Unimportant, 3.41 – 4.20 = Important, 4.21 – 5.00 = Very Important

Of the 10 instructors responding in this study, they also reported that 4 of the 5 factors were very important factors. These factors were “*I can study without taking time out from working*” ( $M = 5.00$ ,  $SD = .00$ ), “*I want to upgrade my educational qualifications*” ( $M = 4.55$ ,  $SD = .87$ ), “*The program is useful for my job*” ( $M = 4.50$ ,  $SD = .53$ ), and “*The program is affordable*” ( $M = 4.30$ ,  $SD = .82$ ). They also rated “*I can study in other educational institutions at the same time*” as an important factor ( $M = 3.90$ ,  $SD = .74$ ).

## Delivery Channels for STOU Programs

This segment of the study sought to determine how appropriate respondents believed delivery channels were for STOU programs. There are 6 delivery channels that STOU programs provide for their students: (1) post mail, (2) internet, (3) radio broadcasting, (4) television broadcasting, (5) satellite, and (6) face-to-face. The respondents were asked to rate the delivery channels as follow: 1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate.

Undergraduate students indicated that “*post mail*” ( $M = 4.52, SD = .82$ ) and “*the internet*” ( $M = 4.35, SD = .83$ ) were absolutely appropriate delivery channels for STOU programs. They also rated “*television broadcasting*” ( $M = 3.78, SD = 1.06$ ), “*satellite*” ( $M = 3.73, SD = 1.13$ ), and “*face to face*” ( $M = 3.45, SD = 1.27$ ) as appropriate delivery channels for STOU programs. Finally, they rated “*radio broadcasting*” ( $M = 3.40, SD = 1.04$ ) as neither an appropriate or inappropriate delivery channel.

Graduate students pursuing a Master’s degree asserted that “*the internet*” ( $M = 4.81, SD = .46$ ) and “*face-to-face*” ( $M = 4.51, SD = .70$ ) were absolutely appropriate delivery channels. They also rated “*post mail*” ( $M = 4.12, SD = .96$ ) as an appropriate delivery channel. However, they rated “*satellite*” ( $M = 3.37, SD = 1.13$ ) and “*television broadcasting*” ( $M = 3.12, SD = 1.13$ ) as neither appropriate or inappropriate delivery channels. They also rated “*radio broadcasting*” ( $M = 3.40, SD = 1.04$ ) as an inappropriate delivery channel.

Doctoral students indicated that “*the internet*” ( $M = 4.78, SD = .44$ ) was the only absolutely appropriate delivery channel for the program. They also indicated “*face to*

*face*” ( $M = 3.89, SD = 1.09$ ) and *“post mail”* ( $M = 3.67, SD = .71$ ) were appropriate delivery channels. In addition, they reported *“television broadcasting”* ( $M = 3.33, SD = 1.41$ ), *“satellite”* ( $M = 3.22, SD = 1.09$ ), and *“radio broadcasting”* ( $M = 2.89, SD = 1.36$ ) as neither appropriate or inappropriate delivery channels.

Instructors reported that *“the internet”* ( $M = 4.70, SD = .48$ ), *“face to face”* ( $M = 4.40, SD = .84$ ), and *“post mail”* ( $M = 4.30, SD = .68$ ) were absolutely appropriate delivery channels for STOU programs. They also rated *“television broadcasting”* ( $M = 3.90, SD = .88$ ), *“satellite”* ( $M = 3.50, SD = 1.08$ ), and *“radio broadcasting”* ( $M = 3.50, SD = 1.18$ ) as appropriate delivery channels for STOU programs. The details about attitudes of students and instructors toward delivery channels for STOU programs are presented in Table 18.

Table 18 Level of Appropriateness of Delivery Channels by Students and Instructors for STOU Programs

Delivery Channels	Undergraduate		Master's		Doctoral		Instructors		Total	
	Students		Students		students		(n = 10)		(N = 374)	
	(n = 251)		(n = 104)		(n = 9)		(n = 10)		(N = 374)	
	M	SD	M	SD	M	SD	M	SD	M	SD
1. Post Mail	4.52	.82	4.12	.96	3.67	.71	4.30	.68	4.38	.88
2. The Internet	4.35	.83	4.81	.46	4.78	.44	4.70	.48	4.50	.76
3. Radio Broadcasting	3.40	1.04	2.57	1.09	2.89	1.36	3.50	1.18	3.16	1.12
4. Television Broadcasting	3.78	1.06	3.12	1.13	3.33	1.41	3.90	.88	3.59	1.21
5. Satellite	3.73	1.13	3.37	1.17	3.22	1.09	3.50	1.08	3.61	1.15
6. Face to Face	3.45	1.27	4.51	.70	3.89	1.09	4.40	.84	3.78	1.22
Total	3.87	.75	3.74	.59	3.63	.51	3.98	.66	3.83	.70

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

## Distance Learning Methods

This segment of the study sought to determine the satisfaction of students and instructors about the distance learning methods used in STOU programs. There are eight distance learning methods that STOU programs use in their programs: (1) textbooks and workbooks, (2) radio programs, (3) television programs, (4) media on demand, (5) multimedia, (6) e-Learning and e-Training, (7) e-Tutorials, and (8) face-to-face Tutorials. Students and instructors were asked to rate their satisfaction with the distance learning methods with the following scale: 1 = Very Dissatisfied, 2 = Dissatisfied, 3 = Neither Satisfied nor Dissatisfied, 4 = Satisfied, and 5 = Very Satisfied.

Table 19 indicates that undergraduate students were very satisfied with “*textbooks and workbooks*” ( $M = 4.53, SD = .65$ ), and they were satisfied with “*media on demand*” ( $M = 3.96, SD = .89$ ), “*television programs*” ( $M = 3.80, SD = .94$ ), “*multimedia*” ( $M = 3.80, SD = .94$ ), “*e-Learning and e-Training*” ( $M = 3.63, SD = 1.04$ ), “*radio programs*” ( $M = 3.55, SD = .93$ ), and “*face-to-face Tutorials*” ( $M = 3.54, SD = 1.16$ ). “*e-Tutorials*” ( $M = 3.39, SD = 1.03$ ) was an only distance learning method that undergraduate students indicated they were neither satisfied nor dissatisfied with.

Graduate students pursuing a Master’s degree were very satisfied with “*face-to-face Tutorials*” ( $M = 4.76, SD = .49$ ), “*e-Learning and e-Training*” ( $M = 4.47, SD = .67$ ), and “*textbooks and workbooks*” ( $M = 4.33, SD = .66$ ). They were also satisfied with “*media on demand*” ( $M = 3.96, SD = .89$ ), “*multimedia*” ( $M = 3.80, SD = .94$ ), and “*e-Tutorials*” ( $M = 3.63, SD = 1.04$ ). “*Radio programs*” ( $M = 2.67, SD = .96$ ) and “*television programs*” ( $M = 3.14, SD = .98$ ) were two distance learning methods that Master’s degree students indicated they were neither satisfied nor dissatisfied with.

Doctoral students were very satisfied with “textbooks and workbooks” ( $M = 4.56$ ,  $SD = 1.01$ ), “face-to-face Tutorials” ( $M = 4.56$ ,  $SD = .53$ ), “e-Learning and e-Training” ( $M = 4.33$ ,  $SD = 1.12$ ), and “media on demand” ( $M = 4.22$ ,  $SD = .83$ ). They rated “multimedia” ( $M = 4.00$ ,  $SD = 1.00$ ) and “e-Tutorials” ( $M = 3.56$ ,  $SD = .88$ ) as satisfactory methods. However, they rated “television programs” ( $M = 3.11$ ,  $SD = 1.54$ ) and “radio programs” ( $M = 2.89$ ,  $SD = 1.36$ ) as distance learning methods in which they were neither satisfied nor dissatisfied with.

Table 19 Level of Satisfaction of Distance Learning Methods by Students and Instructors used in STOU Programs

Distance Learning Methods	Undergraduate Students ( $n = 251$ )		Graduate Students ( $n = 104$ )		Doctoral students ( $n = 9$ )		Instructors ( $n = 10$ )		Total ( $n = 374$ )	
	$M$	$SD$	$M$	$SD$	$M$	$SD$	$M$	$SD$	$M$	$SD$
1. Textbooks and workbooks	4.53	.65	4.33	.66	4.56	1.01	4.90	.32	4.48	.66
2. Radio programs	3.55	.93	2.67	.96	2.89	1.36	3.10	1.45	3.28	1.04
3. Television programs	3.80	.94	3.14	.98	3.11	1.54	3.50	1.27	3.60	1.02
4. Media on demand	3.96	.89	3.95	.90	4.22	.83	3.40	1.17	3.95	.90
5. Multimedia	3.80	.94	4.05	.86	4.00	1.00	3.60	.97	3.87	.96
6. E-Learning and E-Training	3.63	1.04	4.47	.67	4.33	1.12	4.00	.94	3.89	1.02
7. E-Tutorials	3.39	1.03	3.44	.96	3.56	.88	3.90	.88	3.42	1.00
8. Face-to-face Tutorials	3.54	1.16	4.76	.49	4.56	.53	4.60	.70	3.93	1.14
Total	3.77	.69	3.85	.52	3.90	.59	3.95	.29	3.80	.64

Note: 1.00 – 1.80 = Very Dissatisfied, 1.81 – 2.60 = Dissatisfied, 2.61 – 3.40 = Neither Satisfied nor Dissatisfied, 3.41 – 4.20 = Satisfied, 4.21 – 5.00 = Very Satisfied

Finally, instructors responded that they were very satisfied with “textbooks and workbooks” ( $M = 4.90$ ,  $SD = .32$ ), and “face-to-face Tutorials” ( $M = 4.60$ ,  $SD = .70$ ). They also rated “e-Learning and e-Training” ( $M = 4.00$ ,  $SD = .94$ ), “e-Tutorials” ( $M = 3.90$ ,  $SD = .88$ ), “multimedia” ( $M = 3.60$ ,  $SD = .97$ ), and “television programs” ( $M = 3.50$ ,  $SD = 1.27$ ) as satisfactory methods. “Radio programs” ( $M = 3.10$ ,  $SD = 1.45$ ) and “media on demand” ( $M = 3.40$ ,  $SD = 1.17$ ) were two distance learning methods that

instructors indicated as they were neither satisfied nor dissatisfied with. The details about the satisfaction of students and instructors toward distance learning methods are presented in Table 19.

### **Curriculum for STOU Agricultural Extension Programs**

The purpose of this segment of the study was to determine the level of agreement students and instructors had toward the curriculum for STOU programs. The students and instructors were asked to rate 10 Likert-type statements regarding their level of agreement with the program curriculum using the following scale: 1 = Strong Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, and 5= Strong Agree. Table 20 presents the results about their attitudes toward the program curriculum.

Undergraduate students strongly agreed with 7 of the 10 items. These items were item 10 "*The cost of STOU Agricultural Extension and Development program is reasonable to students' benefits*" ( $M = 4.46, SD = .68$ ), item 1 "*The instructional methodology is appropriate for the curriculum*" ( $M = 4.39, SD = .68$ ), item 9 "*Students achieve their personal goals with the program*" ( $M = 4.35, SD = .72$ ), item 2 "*The instructional material is current*" ( $M = 4.32, SD = .71$ ), item 3 "*The instructions are clearly written and easy to understand*" ( $M = 4.23, SD = .72$ ), item 6 "*The tutorial supports assist students in achieving the competence*" ( $M = 4.23, SD = .76$ ), and item 5 "*The examinations are comprehensive*" ( $M = 4.22, SD = .71$ ). Undergraduate students also agreed with 3 of the 10 items: item 8 "*The Information Call Center support useful information for your learning*" ( $M = 4.17, SD = .73$ ), item 4 "*There are adequate examinations to ascertain student progress*" ( $M = 4.16, SD = .75$ ), and item 7 "*There are adequate materials to support learning via the library's services*" ( $M = 3.90, SD = .79$ ).

Table 20 Level of Agreement by Students and Instructors with the Curriculum for the STOU Agricultural Extension Program

Program's curriculum	Undergraduate Students (n = 251)		Master's Degree Students (n = 104)		Doctoral students (n = 9)		Instructors (n = 10)		Total (N = 374)	
	M	SD	M	SD	M	SD	M	SD	M	SD
	1. The instructional methodology is appropriate for the curriculum.	4.39	.68	4.55	.56	4.56	.73	3.80	.42	4.43
2. The instructional material is current.	4.32	.71	4.40	.69	4.44	.73	3.90	.57	4.33	.70
3. The instructions are clearly written and easy to understand.	4.23	.72	4.33	.61	4.56	.53	4.10	.57	4.26	.69
4. There are adequate examinations to ascertain student progress.	4.16	.75	4.21	.73	4.56	.53	3.80	.79	4.17	.74
5. The examinations are comprehensive.	4.22	.71	4.25	.68	4.67	.50	4.30	.82	4.24	.70
6. The tutorial supports assist students in achieving the competence.	4.23	.76	4.35	.75	4.67	.50	4.20	.79	4.27	.76
7. There are adequate materials to support learning via the library's services.	3.90	.79	3.53	.90	3.78	1.20	3.70	.95	3.79	.85
8. The Information Call Center support useful information for your learning.	4.17	.73	3.95	.73	4.56	.53	3.40	1.08	4.10	.75
9. Students achieve your personal goals with the program.	4.35	.72	4.41	.60	4.78	.44	3.90	.57	4.37	.69
10. The cost of STOU Agricultural Extension and Development program is reasonable to students' benefits.	4.46	.68	4.23	.73	4.44	.73	4.40	.70	4.40	.70
Total	4.24	.54	4.22	.45	4.50	.35	3.95	.29	4.23	.51

Note: 1.00 – 1.80 = Strong Disagree, 1.81 – 2.60 = Disagree, 2.61 – 3.40 = Neither Agree or Disagree, 3.41 – 4.20 = Agree, 4.21 – 5.00 = Strong Agree

Graduate students pursuing a Master's degree strongly agreed with 8 of the 10 items. These items were item 1 "*The instructional methodology is appropriate for the curriculum*" ( $M = 4.55$ ,  $SD = .56$ ), item 9 "*Students achieve their personal goals with the program*" ( $M = 4.41$ ,  $SD = .60$ ), item 2 "*The instructional material is current*" ( $M = 4.40$ ,

$SD = .69$ ), item 6 “*The tutorial supports assist students in achieving the competence*” ( $M = 4.35, SD = .75$ ), item 3 “*The instructions are clearly written and easy to understand*” ( $M = 4.33, SD = .61$ ), item 5 “*The examinations are comprehensive*” ( $M = 4.25, SD = .68$ ), item 10 “*The cost of STOU Agricultural Extension and Development program is reasonable to students’ benefits*” ( $M = 4.23, SD = .73$ ), and item 4 “*There are adequate examinations to ascertain student progress*” ( $M = 4.21, SD = .73$ ). They also agreed with the 2 remain items: item 7 “*There are adequate materials to support learning via the library’s services*” ( $M = 3.53, SD = .90$ ) and item 8 “*The Information Call Center support useful information for your learning*” ( $M = 3.95, SD = .73$ ).

Doctoral students strongly agreed with 9 of the 10 items about the curriculum: item 9 “*Students achieve their personal goals with the program*” ( $M = 4.78, SD = .44$ ), item 5 “*The examinations are comprehensive*” ( $M = 4.67, SD = .50$ ), item 6 “*The tutorial supports assist students in achieving the competence*” ( $M = 4.67, SD = .50$ ), item 1 “*The instructional methodology is appropriate for the curriculum*” ( $M = 4.56, SD = .73$ ), item 3 “*The instructions are clearly written and easy to understand*” ( $M = 4.56, SD = .53$ ), item 4 “*There are adequate examinations to ascertain student progress*” ( $M = 4.56, SD = .53$ ), item 2 “*The instructional material is current*” ( $M = 4.40, SD = .73$ ), and item 10 “*The cost of STOU Agricultural Extension and Development program is reasonable to students’ benefits*” ( $M = 4.40, SD = .73$ ). Item 7 “*There are adequate materials to support learning via the library’s services*” ( $M = 3.78, SD = 1.20$ ) was only item that doctoral students agreed with.

Instructors strongly agreed with 2 of the 10 items. These items were item 10 “*The cost of STOU Agricultural Extension and Development program is reasonable to*



*students' benefits*" ( $M = 4.40, SD = .70$ ), and item 5 "*The examinations are comprehensive*" ( $M = 4.30, SD = .82$ ). They also agreed with 7 of the 10 items: item 6 "*The tutorial supports assist students in achieving the competence*" ( $M = 4.20, SD = .79$ ), item 3 "*The instructions are clearly written and easy to understand*" ( $M = 4.10, SD = .57$ ), item 2 "*The instructional material is current*" ( $M = 3.90, SD = .57$ ), item 9 "*Students achieve their personal goals with the program*" ( $M = 3.90, SD = .57$ ), item 1 "*The instructional methodology is appropriate for the curriculum*" ( $M = 3.80, SD = .42$ ), item 4 "*There are adequate examinations to ascertain student progress*" ( $M = 3.80, SD = .79$ ), and Item 7 "*There are adequate materials to support learning via the library's services*" ( $M = 3.70, SD = .95$ ). Item 8 "*The Information Call Center support useful information for your learning*" ( $M = 3.40, SD = 1.08$ ) was only item that instructors neither agreed or disagreed with.

### **Applicant Qualifications when Students Apply for STOU Programs**

#### *Bachelor's degree*

This section reports the results about how appropriate undergraduate students and instructors believed the 6 applicant qualifications were for students when applying for the STOU Agricultural Extension Program (Bachelor's Degree). Undergraduate students and instructors were asked to rate the 6 items using the following scale: 1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate.

Undergraduate students indicated 3 of the 6 qualifications were absolutely appropriate for the Bachelor's program: item 6 "*Applicants must have completed a higher vocational certificate or diploma or its equivalent in agriculture or in any related*

*field*” ( $M = 4.43, SD = .84$ ), item 4 “*Applicants must have completed upper secondary school or its equivalent*” ( $M = 4.30, SD = .90$ ), and item 5 “*Applicants must have completed a technical vocational certificate or its equivalent in agriculture or in any related field*” ( $M = 4.25, SD = .97$ ). The other 3 items were rated by undergraduate students as appropriate applicant qualifications for the program: item 3 “*Applicants must have completed lower secondary school or its equivalent, and received a training certificate as approved by the university*” ( $M = 3.67, SD = 1.09$ ), item 1 “*Applicants must have completed lower secondary school or its equivalent, and have at least five years’ subsequent work experience at the beginning of the academic semester in which they enroll*” ( $M = 3.65, SD = 1.15$ ), and item 2 “*Applicants must have completed lower secondary school or its equivalent, and be at least twenty five years of age at the beginning of the academic semester in which they enroll*” ( $M = 3.51, SD = 1.20$ ).

Instructors indicated that item 6 “*Applicants must have completed a higher vocational certificate or diploma or its equivalent in agriculture or in any related field*” ( $M = 4.60, SD = .52$ ), item 5 “*Applicants must have completed a technical vocational certificate or its equivalent in agriculture or in any related field*” ( $M = 4.60, SD = .52$ ), and item 4 “*Applicants must have completed upper secondary school or its equivalent*” ( $M = 4.40, SD = .97$ ) were absolutely appropriate qualifications for a bachelor’s degree program. Three of six items were rated by instructors as appropriate applicant qualifications for the program: item 1 “*Applicants must have completed lower secondary school or its equivalent, and have at least five years’ subsequent work experience at the beginning of the academic semester in which they enroll*” ( $M = 3.80, SD = 1.14$ ), item 3 “*Applicants must have completed lower secondary school or its equivalent, and received*

a training certificate as approved by the university” ( $M = 3.80, SD = 1.35$ ), and item 2 “Applicants must have completed lower secondary school or its equivalent, and be at least twenty five years of age at the beginning of the academic semester in which they enroll” ( $M = 3.60, SD = 1.27$ ). The descriptive statistics are presented in Table 21.

Table 21 Level of Appropriateness by Undergraduate Students and Instructors Toward Applicant Qualifications when Applying for the STOU Agricultural Extension Program (Bachelor’s Degree)

Applicant Qualifications for Bachelor’s Degree	Undergraduate					
	Students ( $n = 251$ )		Instructors ( $n = 10$ )		Total ( $N = 261$ )	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. Applicants must have completed lower secondary school or its equivalent, and have at least five years’ subsequent work experience at the beginning of the academic semester in which they enroll.	3.65	1.15	3.80	1.14	3.66	1.15
2. Applicants must have completed lower secondary school or its equivalent, and be at least twenty five years of age at the beginning of the academic semester in which they enroll.	3.51	1.20	3.60	1.27	3.52	1.20
3. Applicants must have completed lower secondary school or its equivalent, and received a training certificate as approved by the university.	3.67	1.09	3.80	1.35	3.68	1.09
4. Applicants must have completed upper secondary school or its equivalent.	4.30	.90	4.40	.97	4.31	.90
5. Applicants must have completed a technical vocational certificate or its equivalent in agriculture or in any related fields.	4.25	.97	4.60	.52	4.27	.96
6. Applicants must have completed a higher vocational certificate or diploma or its equivalent in agriculture or in any related fields.	4.43	.84	4.60	.52	4.44	.83
Total	3.97	.76	4.13	.67	3.98	.76

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

### Master’s degree

Master’s degree students and instructors were asked to rate 3 items about the appropriateness of applicant qualifications for a Master’s degree using the following scale: 1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or

Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate. Table 22 presents the results.

Master's degree students indicated that item 1 "*Applicants must hold a bachelor's degree in agricultural extension, agricultural development, a field related to agriculture, or others from a higher educational institution accredited by Office of Higher Education Commission*" ( $M = 4.63, SD = .61$ ) and item 2 "*Applicants have work experience related to agricultural extension, agricultural development or other agricultural fields at least one year*" ( $M = 4.55, SD = .70$ ) were absolutely appropriate applicant qualifications when students apply for the STOU Agricultural Extension and Development Program (Master's degree). They also rated item 3 "*Applicants have a grade point average for the bachelor's degree of 2.50 or higher*" ( $M = 4.19, SD = .96$ ) as an appropriate applicant qualification for the master's degree.

Instructors also indicated that item 1 "*Applicants must hold a bachelor's degree in agricultural extension, agricultural development, a field related to agriculture, or others from a higher educational institution accredited by Office of Higher Education Commission*" ( $M = 4.60, SD = .51$ ), and item 2 "*Applicants have work experience related to agricultural extension, agricultural development or other agricultural fields at least one year*" ( $M = 4.60, SD = .51$ ) were absolutely appropriate applicant qualifications when students apply for the STOU Agricultural Extension and Development Program (Master's degree). In addition, they also rated item 3 "*applicants have a grade point average for the bachelor's degree of 2.50 or higher*" ( $M = 4.00, SD = .94$ ) as an appropriate qualification.

Table 22 Level of Appropriateness by Master's Degree Students and Instructors Toward Applicant Qualifications when Applying for the STOU Agricultural Extension and Development Program (Master's degree)

Applicant Qualifications for Master's Degree	Master's Degree Students (n = 104)		Instructors (n = 10)		Total (N = 114)	
	M	SD	M	SD	M	SD
	1. Applicants must hold a bachelor's degree in agricultural extension, agricultural development, a field related to agriculture, or others from a high educational institution accredited by Office of higher Education Commission.	4.63	.61	4.60	.51	4.63
2. Applicants have work experience related to agricultural extension, agricultural development or other agricultural fields at least one year.	4.55	.70	4.60	.51	4.55	.68
3. Applicants have a grade point average for the bachelor's degree of 2.50 or higher.	4.19	.96	4.00	.94	4.18	.95
Total	4.46	.57	4.40	.47	4.45	.56

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

#### Doctoral degree

For applicant qualifications when students apply for the STOU doctoral degree, doctoral students and instructors were asked to rate 4 items about the appropriateness of applicant qualifications of the STOU Agricultural Extension and Development Program (Doctoral degree) using the following scale: 1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate.

Doctoral students indicated all of the applicant qualifications were absolutely appropriate applicant qualifications: item 1 “Applicants must hold a master's degree in agricultural extension, agricultural development, a field related to agriculture, or others from a university or higher educational institution accredited by the Office of Higher Education Commission” ( $M = 4.67$ ,  $SD = .50$ ), item 2 “Applicants have work experience

*related to agricultural extension, agricultural development or other agricultural fields at least three years” (M = 4.56, SD = .53), item 4 “Applicants pass English language test as specified by the School of Agriculture and Cooperatives and approved by the Graduate Committees of STOU, the test score should not be over two years until the date of application” (M = 4.44, SD = .73), and item 3 “Applicants have a grade point average for the master’s degree of 3.50 or higher” (M = 4.44, SD = .73).*

Instructors indicated that item 1 *“Applicants must hold a master’s degree in agricultural extension, agricultural development, a field related to agriculture, or others from a university or higher educational institution accredited by the Office of Higher Education Commission” (M = 4.70, SD = .48), and item 3 “Applicants have a grade point average for the master’s degree of 3.50 or higher” (M = 4.50, SD = .71) were absolutely appropriate applicant qualifications. They also rated item 2 “Applicants have work experience related to agricultural extension, agricultural development or other agricultural fields at least three years” (M = 4.20, SD = .63), and item 4 “Applicants pass English language test as specified by the School of Agriculture and Cooperatives and approved by the Graduate Committees of STOU, the test score should not be over two years until the date of application” (M = 4.20, SD = 1.03) were appropriate applicant qualifications for a doctoral degree. The descriptive statistics are presented in Table 23.*

Table 23 Level of Appropriateness of Doctoral Students and Instructors Toward Applicant Qualifications when Applying for the STOU Agricultural Extension and Development Program (Doctoral Degree)

Applicant Qualifications for Doctoral Degree	Doctoral Students ( <i>n</i> = 9)		Instructors ( <i>n</i> = 10)		Total ( <i>N</i> = 19)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
	1. Applicants must hold a master's degree in agricultural extension, agricultural development, a field related to agriculture, or others from a university or high educational institution accredited by Office of higher Education Commission.	4.67	.50	4.70	.48	4.68
2. Applicants have work experience related to agricultural extension, agricultural development or other agricultural fields at least three years.	4.56	.53	4.20	.63	4.37	.60
3. Applicants have a grade point average for the master's degree of 3.50 or higher.	4.44	.73	4.50	.71	4.47	.70
4. Applicants pass English language test as specified by the School of Agriculture and Cooperatives and approved by the Graduate Committees of STOU, the test score should not be over two years until the date of application.	4.56	.53	4.20	1.03	4.37	.83
Total	4.55	.48	4.40	.52	4.47	.49

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

### Program Objectives for STOU Agricultural Extension Programs

This section presents the results regarding the level of appropriateness students and instructors had toward the STOU program objectives (Bachelor's degree, Master's degree, and doctoral degree) when participating in the ASEAN community. There were 3 parts in this section: level of appropriateness toward program objectives of the Bachelor's degree by undergraduate students and instructors, level of appropriateness toward program objectives of the Master's degree by Master's degree students and instructors, and level of appropriateness toward program objectives of the Doctoral degree by doctoral students and instructors. Students and instructors were asked to rate the Likert-

type statements as follows: 1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate.

### *Bachelor's degree*

Undergraduate students rated all three objectives as absolutely appropriate when participating in ASEAN community. These items were item 3 “*To promote research in agricultural extension at community, region, and national levels*” ( $M = 4.58, SD = .69$ ), item 1 “*To fulfill academic knowledge in agricultural extension for personal in government and private organizations, farmers, and general public*” ( $M = 4.51, SD = .71$ ), and item 2 “*To educate at bachelor's degree level in agricultural extension*” ( $M = 4.51, SD = .75$ ).

Table 24 Level of Appropriateness of Undergraduate Students and Instructors Toward Level of Program Objectives for the STOU Agricultural Extension Program (Bachelor's Degree)

Objectives of Bachelor's Degree	Undergraduate					
	Students ( $n=251$ )		Instructors ( $n = 10$ )		Total ( $N = 261$ )	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. To fulfill academic knowledge in agricultural extension for personal in government and private organization, farmers, and general public.	4.51	.71	4.60	.70	4.51	.70
2. To educate at bachelor's degree level in agricultural extension	4.51	.75	4.50	.71	4.51	.74
3. To promote research in agricultural extension at community, region, and national levels.	4.58	.69	4.30	.95	4.57	.70
Total	4.53	.66	4.47	.65	4.53	.66

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Instructors also rated all three objectives as absolutely appropriate. These items were item 1 “*To fulfill academic knowledge in agricultural extension for personal in government and private organizations, farmers, and general public*” ( $M = 4.60, SD =$



.70), and item 2 “*To educate at bachelor’s degree level in agricultural extension*” ( $M = 4.50, SD = .71$ ), and item 3 “*To promote research in agricultural extension at community, region and national levels*” ( $M = 4.30, SD = .95$ ). Table 24 presents the results.

#### *Master’s degree*

Master’s degree students rated all three objectives as absolutely appropriate when participating in the ASEAN community. These items were item 3 “*To produce graduates with professional ethics and consciousness of their responsibility to society and the environment*” ( $M = 4.81, SD = .40$ ), item 2 “*To produce graduates who can apply their knowledge of agricultural extension and development in accordance with economic, social, and environmental changes*” ( $M = 4.79, SD = .41$ ), and item 1 “*To produce graduates with professional and academic knowledge and abilities in the field of agricultural extension and development*” ( $M = 4.70, SD = .57$ ).

**Table 25** Level of Appropriateness of Master’s Degree Students and Instructors Toward Level of Program Objectives for the STOU Agricultural Extension and Development program (Master’s Degree)

Objectives of Master’s Degree Program	Master’s degree					
	Students ( $n=104$ )		Instructors ( $n = 10$ )		Total ( $N = 114$ )	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. To produce graduates with professional and academic knowledge and abilities in the field of agricultural extension and development.	4.70	.57	4.70	.68	4.70	.58
2. To produce graduates who can apply their knowledge of agricultural extension and development in accordance with economic, social, and environmental changes.	4.79	.41	4.50	.71	4.76	.45
3. To produce graduates with professional ethics and consciousness of their responsibility to society and the environment.	4.81	.40	4.70	.48	4.80	.40
Total	4.77	.40	4.63	.65	4.75	.41

*Note:* 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Instructors also rated all three objectives as absolutely appropriate: item 1 “*To produce graduates with professional and academic knowledge and abilities in the field of agricultural extension and development*” ( $M = 4.70, SD = .68$ ), item 3 “*To produce graduates with professional ethics and consciousness of their responsibility to society and the environment*” ( $M = 4.70, SD = .48$ ), and item 2 “*To produce graduates who can apply their knowledge of agricultural extension and development in accordance with economic, social, and environmental changes*” ( $M = 4.50, SD = .71$ ). Table 25 presents these results.

#### *Doctoral degree*

Table 26 presents the results of doctoral students and instructors toward the appropriateness of program objectives. Doctoral students rated all four objectives as absolutely appropriate when participating in the ASEAN community: item 2 “*To produce graduates with the knowledge and abilities to apply concepts and theories of agricultural extension and development appropriately*” ( $M = 4.67, SD = .50$ ), item 4 “*To build up professionals and academics in the field of agricultural extension and development who can create innovations for government and private sector organizations and the agricultural society*” ( $M = 4.67, SD = .50$ ), item 1 “*To produce graduates with the knowledge and abilities to do research, create innovations, and expand the body of knowledge about agricultural extension and development in breadth and depth*” ( $M = 4.56, SD = .53$ ), and item 3 “*To produce graduates with professional ethics and morals in the field of agricultural extension and development*” ( $M = 4.44, SD = .53$ ).

Instructors had the same responses that all four objectives were absolutely appropriate. These items were item 1 “*To produce graduates with the knowledge and*

abilities to do research, create innovations, and expand the body of knowledge about agricultural extension and development in breadth and depth” ( $M = 4.80, SD = .42$ ), item 2 “To produce graduates with the knowledge and abilities to apply concepts and theories of agricultural extension and development appropriately” ( $M = 4.80, SD = .42$ ), item 3 “To produce graduates with professional ethics and morals in the field of agricultural extension and development” ( $M = 4.60, SD = .52$ ), and item 4 “To build up professionals and academics in the field of agricultural extension and development who can create innovations for government and private sector organizations and the agricultural society” ( $M = 4.50, SD = .53$ ).

Table 26 Level of Appropriateness of Doctoral Students and Instructors Toward Level of Program Objectives for the STOU Agricultural Extension and Development Program (Doctoral Degree)

Objectives of Doctoral Program	Doctoral					
	Students ( $n = 9$ )		Instructors ( $n = 10$ )		Total ( $N = 19$ )	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. To produce graduates with the knowledge and abilities to do research, create innovations, and expand the body of knowledge about agricultural extension and development in breadth and depth.	4.56	.53	4.80	.42	4.68	.48
2. To produce graduates with the knowledge and abilities to apply concepts and theories of agricultural extension and development appropriately.	4.67	.50	4.80	.42	4.74	.45
3. To produce graduates with professional ethics and morals in the field of agricultural extension and development.	4.44	.53	4.60	.52	4.53	.51
4. To build up professionals and academics in the field of agricultural extension and development who can create innovations for government and private sector organizations and the agricultural society.	4.67	.50	4.50	.53	4.58	.51
Total	4.58	.47	4.68	.39	4.63	.42

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

## Program Structure

This section reports the results of the level of appropriateness from students and instructors toward program structures when participating in the ASEAN community. The following scales were used for the students and instructors to rate the Likert-type statements: 1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5= Absolutely Appropriate. There were 3 parts in this section: level of appropriateness by undergraduate students and instructors toward program structures of the Bachelor's degree, level of appropriateness by Master's degree students and instructors toward program structures of the Master's degree, and level of appropriateness of doctoral students and instructors toward program structures by the Doctoral degree.

### *Bachelor's degree*

Undergraduate students and instructors were asked to rate the level of appropriateness about the program structure of the Bachelor's degree. Table 27 indicates that the undergraduate students rated all thirty-two subjects in the program structure as absolutely appropriate when participating in the ASEAN community. The five highest mean scores were “*Professional Experience in Agricultural Extension*” ( $M = 4.70, SD = .62$ ), “*Leadership, Human Relations and Psychology for farmers*” ( $M = 4.66, SD = .62$ ), “*Economic Crops*” ( $M = 4.63, SD = .57$ ), “*Research in Agricultural Extension*” ( $M = 4.62, SD = .64$ ), and “*Information and Communication Media in Agricultural Extension*” ( $M = 4.61, SD = .63$ ).

Table 27 Level of Appropriateness by Undergraduate Students and Instructors Toward the Program Structure for the STOU Agricultural Extension Program (Bachelor's Degree) when Participating in the ASEAN Community

Bachelor's Degree Program structure	Undergraduate					
	Students (n = 251)		Instructors (n = 10)		Total (N = 261)	
	M	SD	M	SD	M	SD
1. Life Skills	4.48	.68	4.00	1.05	4.46	.70
2. Science, Technology and Environment for live	4.46	.74	4.20	1.14	4.45	.76
3. Thai Studies	4.40	.84	3.80	1.23	4.38	.86
4. Thailand and the World Community	4.49	.78	4.30	.82	4.49	.78
5. Farm management	4.43	.79	4.30	.48	4.43	.78
6. Fundamentals of Agricultural Resources Management and Environment	4.46	.72	4.20	.42	4.45	.71
7. Economic Crops	4.63	.57	4.00	.82	4.61	.68
8. Animal Production	4.51	.76	4.00	.67	4.49	.76
9. Fundamentals of Agricultural Extension	4.59	.65	4.60	.52	4.59	.65
10. Agricultural Community Development	4.60	.61	4.60	.52	4.60	.61
11. Principles of Administration in Agricultural Extension	4.60	.63	4.70	.48	4.60	.63
12. Knowledge Management for Agricultural Extension	4.58	.66	4.70	.48	4.59	.65
13. Integrated Agricultural System Management	4.53	.71	4.50	.53	4.52	.70
14. Information and Communication Media in Agricultural Extension	4.61	.63	4.80	.42	4.62	.62
15. Leadership, Human Relation and Psychology for farmers	4.66	.62	4.60	.52	4.66	.61
16. Development of Group, Institution, and Organization in Agriculture	4.56	.69	4.60	.52	4.56	.68
17. Research in Agricultural Extension	4.62	.64	4.70	.48	4.62	.63
18. Professional Experience in Agricultural Extension	4.70	.62	4.70	.48	4.70	.62
19. Fundamentals of Agribusiness	4.60	.66	4.50	.53	4.60	.65
20. English for Communication	4.50	.82	4.60	.52	4.50	.81
21. Thai for Communication	4.40	.76	4.20	.63	4.39	.76
22. Soil, Water and Fertilizer	4.48	.73	3.80	.42	4.45	.74
23. Ornamental Plants in Landscaping	4.30	.77	4.10	.32	4.30	.76
24. Agro-tourism Management	4.48	.73	4.30	.68	4.47	.73
25. Animal Production for Recreation and Economics	4.33	.81	3.60	.52	4.31	.81
26. Introduction to crop pets	4.33	.81	3.80	.42	4.31	.81
27. Crop Commodity Management	4.48	.74	3.90	.32	4.46	.74
28. Feeds and feeding	4.35	.79	3.80	.42	4.33	.78
29. Cereal and Forage Crop production Management	4.43	.73	3.60	.70	4.40	.75
30. Industrial Crop Production Management	4.45	.74	3.60	.70	4.41	.75
31. Flowering and Ornamental Plant Production Management	4.52	.72	3.80	.63	4.49	.73
32. Fruit and Vegetable Production Management	4.60	.66	3.80	.63	4.57	.67
Total	4.50	.55	4.21	.19	4.49	.54

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Instructors rated 14 of the 32 subjects as absolutely appropriate when participating in the ASEAN community. The five highest mean scores were “*Information and Communication Media in Agricultural Extension*” ( $M = 4.80, SD = .42$ ), “*Principles of Administration in Agricultural Extension*” ( $M = 4.70, SD = .48$ ), “*Knowledge Management for Agricultural Extension*” ( $M = 4.70, SD = .48$ ), “*Research in Agricultural Extension*” ( $M = 4.70, SD = .48$ ), and “*Professional Experience in Agricultural Extension*” ( $M = 4.70, SD = .48$ ). The remaining components were rated as appropriate by instructors.

#### *Master's degree*

Master's degree students rated all 10 subjects as absolutely appropriate components of the program structure. The 5 highest mean scores was “*International Agricultural Extension and Development*” ( $M = 4.90, SD = .33$ ), “*Communication in Agricultural Extension and Development*” ( $M = 4.80, SD = .45$ ), “*Agricultural Extension for Development*” ( $M = 4.74, SD = .50$ ), “*Thesis*” ( $M = 4.74, SD = .48$ ), and “*Resource Management for Agricultural Extension and Development*” ( $M = 4.70, SD = .57$ ).

The instructors rated 8 of the 10 subjects as absolutely appropriate. The 5 highest mean scores was “*International Agricultural Extension and Development*” ( $M = 4.80, SD = .42$ ), “*Thesis*” ( $M = 4.60, SD = .70$ ), “*Agricultural Extension for Development*” ( $M = 4.50, SD = .53$ ), “*Communication in Agricultural Extension and Development*” ( $M = 4.50, SD = .53$ ), and “*Graduate Professional Experience in Agricultural Extension and Development*” ( $M = 4.50, SD = .71$ ). The other components were rated as appropriate. The descriptive statistics are presented in Table 28.

Table 28 Level of Appropriateness by Master's Degree Students and Instructors Toward the Program Structure for the STOU Agricultural Extension and Development Program (Master's Degree) when Participating in the ASEAN Community

Master's Degree Program structure	Master's Degree					
	Students (n = 104)		Instructors (n = 10)		Total (N = 114)	
	M	SD	M	SD	M	SD
1. Agricultural Extension for Development	4.74	.50	4.50	.53	4.72	.51
2. Thai Society and Management in Agricultural Extension and Development	4.51	.72	4.20	.63	4.48	.72
3. International Agricultural Extension and Development	4.90	.33	4.80	.42	4.89	.34
4. Research and Statistics for Agricultural Extension and Development	4.70	.57	4.50	.53	4.68	.57
5. Resource Management for Agricultural Extension and Development	4.62	.64	4.40	.52	4.61	.63
6. Communication in Agricultural Extension and Development	4.80	.45	4.50	.53	4.77	.46
7. Organization for Agricultural Extension and Development	4.59	.60	4.30	.48	4.56	.60
8. Independent Study	4.26	.96	3.70	.82	4.21	.95
9. Thesis	4.74	.48	4.60	.70	4.73	.50
0. Graduate Professional Experience in Agricultural Extension and Development	4.68	.61	4.50	.71	4.67	.62
Total	4.65	.41	4.40	.35	4.62	.41

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

### Doctoral degree

Doctoral students rated 5 of the 6 subjects as absolutely appropriate when participating in the ASEAN community. They rated the five highest mean with “Advanced Agricultural Extension and Development” ( $M = 4.67, SD = .50$ ), “Advanced Seminar in Agricultural Extension and Development” ( $M = 4.67, SD = .50$ ), “Dissertation” ( $M = 4.56, SD = .73$ ), “Advanced Research in Agricultural Extension and Development” ( $M = 4.44, SD = .73$ ), and “Advanced Statistics in Agricultural Extension

and Development Research” ( $M = 4.22$ ,  $SD = 1.30$ ). The other component was rated as an appropriate program structure.

The instructors rated all 6 subjects as absolutely appropriate when participating in the ASEAN community. The 5 highest mean scores were “Advanced Agricultural Extension and Development” ( $M = 4.70$ ,  $SD = .48$ ), “Advanced Research in Agricultural Extension and Development” ( $M = 4.60$ ,  $SD = .52$ ), “Advanced Statistics in Agricultural Extension and Development Research” ( $M = 4.60$ ,  $SD = .52$ ), “Dissertation” ( $M = 4.60$ ,  $SD = .70$ ), and “Doctoral Professional Experience in Agricultural Extension and Development” ( $M = 4.60$ ,  $SD = .52$ ). The descriptive statistics are presented in Table 29.

Table 29 Level of Appropriateness of Doctoral Students and Instructors Toward the Program Structure for the STOU Agricultural Extension and Development Program (Doctoral Degree) when Participating in the ASEAN Community

Doctoral Degree Program structure	Doctoral					
	Students ( $n = 9$ )		Instructors ( $n = 10$ )		Total ( $N = 19$ )	
	$M$	$SD$	$M$	$SD$	$M$	$SD$
1. Advanced Agricultural Extension and Development	4.67	.50	4.70	.48	4.68	.48
2. Advanced Research in Agricultural Extension and Development	4.44	.73	4.60	.52	4.53	.61
3. Advanced Statistics in Agricultural Extension and Development Research	4.22	1.30	4.60	.52	4.42	.96
4. Advanced Seminar in Agricultural Extension and Development	4.67	.50	4.50	.71	4.58	.61
5. Dissertation	4.56	.73	4.60	.70	4.58	.69
6. Doctoral Professional Experience in Agricultural Extension and Development	4.11	.78	4.60	.52	4.37	.68
Total	4.44	.56	4.60	.42	4.52	.49

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate



#### Findings Related to Research Question 4

Research question four sought to determine the attitudes of undergraduate students, graduate students, and instructors at Sukhothai Thammathirat Open University toward the use of distance learning systems for Agricultural Extension programs. There were two parts to this research question. The first part represented the attitudes of students and instructors toward how adequate each level of the STOU learning system for the STOU Agricultural Extension Program and Agricultural Extension and Development Program was when participating in the ASEAN community. The second part reported the attitudes of students and instructors toward how adequate each level of the STOU educational services for the STOU Agricultural Extension Program and Agricultural Extension and Development Program was when participating in the ASEAN community. Statements were rated using the following scale: 1 = Very inadequate, 2 = Inadequate, 3 = Uncertain, 4 = Adequate, and 5 = More than Adequate.

#### Adequacy of the STOU Learning System

Table 30 presents the responses of students and instructors toward the adequacy of components of the STOU learning system. There were 12 items rated for the STOU learning system: (1) the main teaching materials, (2) textbooks, (3) workbooks, (4) multimedia CDs, (5) e-Learning, (6) radio broadcasts, (7) television broadcasts, (8) media on demand, (9) webcasting, (10) face to face Tutorial sessions, (11) e-Tutorial session, and (12) satellite television broadcasts.

Undergraduate students indicated that item 2 “*textbooks*” ( $M = 4.29$ ,  $SD = .82$ ) and item 3 “*workbooks*” ( $M = 4.27$ ,  $SD = .76$ ) are more than adequate for their STOU program when participating in the ASEAN community. They also rated 10 of the 12

items as adequate: item 1 “*the main teaching materials are print-based packages that mailed to students*” ( $M = 4.19, SD = .92$ ), item 11 “*e-Tutorial sessions*” ( $M = 4.16, SD = .88$ ), item 9 “*Webcasts*” ( $M = 4.11, SD = .91$ ), item 5 “*e-Learning on the STOU website*” ( $M = 4.07, SD = .88$ ), item 12 “*satellite television broadcasts*” ( $M = 4.03, SD = .95$ ), item 4 “*multimedia CDs contain audiovisual study aids*” ( $M = 3.95, SD = .86$ ), item 8 “*media on demand consist a past radio and TV programs*” ( $M = 3.88, SD = .89$ ), item 7 “*television broadcasts*” ( $M = 3.86, SD = .92$ ), item 10 “*face-to-face Tutorial sessions*” ( $M = 3.80, SD = 1.04$ ), and item 6 “*radio broadcasts*” ( $M = 3.68, SD = .91$ ).

Master’s degree students indicated that item 10 “*face-to-face Tutorial session*” ( $M = 4.49, SD = .78$ ), item 5 “*e-Learning*” ( $M = 4.39, SD = .74$ ), and item 11 “*e-Tutorial session*” ( $M = 4.33, SD = .68$ ) are more than adequate for completing their STOU program. They also rated 8 of the 12 items as adequate: item 2 “*textbooks*” ( $M = 3.95, SD = .91$ ), item 3 “*workbooks*” ( $M = 3.95, SD = .83$ ), item 9 “*webcasts*” ( $M = 3.88, SD = .86$ ), item 1 “*the main teaching materials are print-based packages that mailed to students*” ( $M = 3.84, SD = 1.07$ ), item 4 “*multimedia CDs contain audiovisual study aids*” ( $M = 3.82, SD = .91$ ), item 12 “*satellite television broadcasts*” ( $M = 3.72, SD = .82$ ), item 8 “*media on demand consist a past radio and TV programs*” ( $M = 3.47, SD = .85$ ), and item 7 “*television broadcasts*” ( $M = 4.27, SD = .76$ ). Item 6, “*radio broadcasts*” ( $M = 3.12, SD = .91$ ), was only one learning system that they rated as uncertain.

Doctoral students rated 5 of the 12 items as more than adequate for completing their STOU program: Item 3 “*workbooks*” ( $M = 4.33, SD = .50$ ), item 10 “*face-to-face Tutorial session*” ( $M = 4.33, SD = 1.00$ ), item 2 “*textbooks*” ( $M = 4.22, SD = .83$ ), item 5

“e-Learning” ( $M = 4.22, SD = 1.09$ ), and item 11 “e-Tutorial session” ( $M = 4.22, SD = 1.09$ ). They also rated the remaining 7 items as adequate: item 9 “webcasts” ( $M = 4.11, SD = 1.05$ ), item 7 “television broadcasts” ( $M = 4.00, SD = 1.12$ ), item 1 “the main teaching materials are print-based packages that mailed to students” ( $M = 3.78, SD = 1.30$ ), item 4 “multimedia CDs contain audiovisual study aids” ( $M = 3.78, SD = 1.30$ ), item 12 “satellite television broadcasts” ( $M = 3.78, SD = 1.09$ ), item 8 “media on demand consist a past radio and TV programs” ( $M = 3.67, SD = 1.00$ ), and Item 6 “radio broadcasts” ( $M = 3.44, SD = 1.01$ ).

Instructors rated only 3 of the 12 items of learning systems as adequate for completing the STOU programs when participating in the ASEAN community: item 11 “e-Tutorial session” ( $M = 3.60, SD = 0.84$ ), item 9 “webcasts” ( $M = 3.50, SD = .85$ ), and item 10 “face-to-face Tutorial session” ( $M = 3.50, SD = .85$ ). They rated 9 of the 12 items as uncertain for completing STOU programs: item 2 “textbooks” ( $M = 3.40, SD = .97$ ), item 5 “e-Learning on the STOU website” ( $M = 3.40, SD = .52$ ), item 12 “satellite television broadcasts” ( $M = 3.40, SD = 1.17$ ), item 7 “television broadcasts” ( $M = 3.30, SD = .68$ ), item 1 “the main teaching materials are print-based packages that mailed to students” ( $M = 3.20, SD = .79$ ), item 8 “media on demand consist a past radio and TV programs” ( $M = 3.20, SD = .92$ ), item 3 “workbooks” ( $M = 3.10, SD = .97$ ), item 4 “multimedia CDs contain audiovisual study aids” ( $M = 3.00, SD = .47$ ), and item 6 “radio broadcasts” ( $M = 2.80, SD = .63$ ).

Table 30 Students and Instructors Ratings Toward the Level of Adequacy about Components of STOU Learning System for the STOU Agricultural Extension Program and Agricultural Extension and Development Program when Participating in the ASEAN Community

STOU Learning System	Undergraduate		Master's		Doctoral		Instructors		Total	
	Students		Students		students		(n = 10)		(N = 374)	
	(n = 251)		(n = 104)		(n = 9)		M	SD	M	SD
1. The main teaching materials are print-based packages that mailed to students.	4.19	.92	3.84	1.07	3.78	1.30	3.20	.79	4.06	.99
2. Textbooks	4.29	.82	3.95	.91	4.22	.83	3.40	.97	4.17	.87
3. Workbooks	4.27	.76	3.95	.83	4.33	.50	3.10	.97	4.15	.81
4. Multimedia CDs contain audiovisual study aids	3.95	.86	3.82	.91	3.78	1.30	3.00	.47	3.89	.89
5 e-Learning on the STOU website	4.07	.88	4.39	.74	4.22	1.09	3.40	.52	4.15	.86
6. Radio broadcasts	3.68	.91	3.12	.91	3.44	1.01	2.80	.63	3.49	.95
7. TV broadcasts	3.86	.92	3.38	.91	4.00	1.12	3.30	.68	3.71	.94
8. Media on demand consist a past radio and TV programs	3.88	.89	3.47	.85	3.67	1.00	3.20	.92	3.75	.90
9. Webcasts	4.11	.91	3.88	.86	4.11	1.05	3.50	.85	4.03	.91
0. Face to face tutorial sessions	3.80	1.04	4.49	.78	4.33	1.00	3.50	.85	4.00	1.00
1. e-Tutorial sessions	4.16	.88	4.33	.68	4.22	.97	3.60	.84	4.19	.84
2. Satellite television broadcasts	4.03	.95	3.72	.82	3.78	1.09	3.40	1.17	3.92	.93
Total	4.02	.64	3.86	.54	3.99	.80	3.28	.37	3.96	.63

Note: 1.00 - 1.80 = Very Inadequate, 1.81 - 2.60 = Inadequate, 2.61 - 3.40 = Uncertain, 3.41 - 4.20 = Adequate, 4.21 - 5.00 = More than Adequate

### Adequate Level of Educational Services for STOU Programs

Table 31 presents the attitudes of students and instructors toward educational services for the STOU Agricultural Extension programs when participating in the ASEAN community. There are 13 educational services that STOU provides to its students: (1) Regional Distance Education Centers, (2) Provincial Study Centers in the main secondary school of every province, (3) STOU Corners in all provincial libraries,

(4) Special Study Centers that work with government agencies, (5) library and information services, (6) guidance for prospective students, (7) student activities such as student clubs, (8) practical experience programs, (9) professional experience activities, (10) Examination Centers that has set up at least one examination center in each province, (11) examination schedules, (12) examination results that are sent to students approximately 30-45 days after each examination, and (13) grading system.

Undergraduate students rated 2 of the 13 items were more than adequate for the STOU program: item 9 “*professional experience activities*” ( $M = 4.29, SD = .81$ ) and item 13 “*grading system*” ( $M = 4.28, SD = .81$ ). They also rated 11 of the 13 items as adequate for the STOU program: item 11 “*examination schedules*” ( $M = 4.20, SD = .79$ ), item 10 “*Examination Centers*” ( $M = 4.06, SD = .94$ ), item 8 “*practical experience programs*” ( $M = 3.98, SD = .96$ ), item 2 “*Provincial Study Centers in the main secondary school of every province*” ( $M = 3.96, SD = .92$ ), item 1 “*Regional Distance Education Centers*” ( $M = 3.86, SD = .96$ ), item 6 “*guidance for prospective students*” ( $M = 3.83, SD = .94$ ), item 12 “*examination results*” ( $M = 3.82, SD = 1.01$ ), item 5 “*library and information services*” ( $M = 3.81, SD = .92$ ), item 7 “*student activities*” ( $M = 3.79, SD = .97$ ), item 3 “*STOU Corners in all provincial libraries*” ( $M = 3.76, SD = .95$ ), and item 4 “*Special study Centers that work with government agencies*” ( $M = 3.71, SD = .95$ ).

Graduate students pursuing a Master’s degree rated 4 of the 13 items more than adequate for their STOU program: item 13 “*grading system*” ( $M = 4.42, SD = .64$ ), item 11 “*examination schedules*” ( $M = 4.36, SD = .67$ ), item 12 “*examination results that sent to students*” ( $M = 4.33, SD = .70$ ) and item 10 “*Examination Centers*” ( $M = 4.26, SD = .88$ ). They also rated 6 of the 13 items as adequate for the STOU program: item 9

*“professional experience activities”* ( $M = 3.91, SD = .79$ ), item 1 *“Regional Distance Education Centers”* ( $M = 3.81, SD = .89$ ), item 2 *“Provincial Study Centers in the main secondary school of every province”* ( $M = 3.73, SD = 1.01$ ), item 8 *“practical experience programs”* ( $M = 3.64, SD = .85$ ), item 5 *“library and information services”* ( $M = 3.57, SD = .83$ ), and item 6 *“guidance for prospective students”* ( $M = 3.56, SD = .89$ ).

Master’s degree students rated item 7 *“student activities”* ( $M = 3.40, SD = .87$ ), item 3 *“STOU Corners in all provincial libraries”* ( $M = 3.31, SD = 1.03$ ), and item 4 *“Special Study Centers that work with government agencies”* ( $M = 3.27, SD = .87$ ) as uncertain in terms of adequacy of educational services for STOU programs.

Doctoral students rated 7 of the 13 items as more than adequate for their STOU program: item 13 *“grading system”* ( $M = 4.56, SD = .73$ ), item 10 *“Examination Centers”* ( $M = 4.44, SD = .73$ ), item 11 *“examination schedules”* ( $M = 4.44, SD = .73$ ), item 9 *“professional experience activities”* ( $M = 4.38, SD = .71$ ), item 1 *“Regional Distance Education Centers”* ( $M = 4.33, SD = .87$ ), item 12 *“examination results sent to students”* ( $M = 4.33, SD = .71$ ), and item 2 *“Provincial Study Centers”* ( $M = 4.22, SD = .83$ ). They also rated 6 of the 13 items as adequate for the STOU program: item 5 *“library and information services”* ( $M = 4.00, SD = .87$ ), item 6 *“guidance for prospective students”* ( $M = 4.00, SD = .87$ ), item 4 *“Special Study Centers that work with government agencies”* ( $M = 3.89, SD = .93$ ), item 8 *“practical experience programs”* ( $M = 3.89, SD = 1.27$ ), item 7 *“student activities”* ( $M = 3.67, SD = 1.23$ ), and item 3 *“STOU Corners in all provincial libraries”* ( $M = 3.56, SD = 1.33$ ).

Table 31 Students and Instructors Ratings Toward the Level of Adequacy about Components of STOU Educational Services for the STOU Agricultural Extension Program and Agricultural Extension and Development Program when Participating in ASEAN Community

STOU Educational Services	Undergraduate		Graduate		Doctoral		Instructors		Total	
	Students (n = 251)		Students (n = 104)		students (n = 9)		(n = 10)		(N = 374)	
	M	SD	M	SD	M	SD	M	SD	M	SD
1. Regional Distance Education Centers	3.86	.96	3.81	.89	4.33	.87	3.00	.82	3.83	.95
2. Provincial Study Centers in the main secondary school of every province	3.96	.92	3.73	1.01	4.22	.83	2.70	.95	3.87	.97
3. STOU Corners in all provincial libraries	3.76	.95	3.31	1.03	3.56	1.33	2.40	.84	3.59	1.02
4. Special Study Centers that work with government agencies.	3.71	.95	3.27	.87	3.89	.93	2.50	.85	3.56	.96
5. Library and Information Services	3.81	.92	3.57	.83	4.00	.87	2.80	.79	3.72	.91
6. Guidance for prospective Students	3.83	.94	3.56	.89	4.00	.87	2.90	.88	3.74	.94
7. Student Activities such as student clubs	3.79	.97	3.40	.87	3.67	1.23	2.80	.92	3.66	.97
8. Practical Experience Programs	3.98	.96	3.64	.85	3.89	1.27	2.60	1.08	3.84	.97
9. Professional Experience Activities	4.29	.81	3.91	.79	4.38	.71	3.30	1.06	4.16	.83
10. Examination Centers that has set up at least one examination center in each province	4.06	.94	4.26	.88	4.44	.73	3.40	.84	4.11	.93
1 Examination Schedules	4.20	.79	4.36	.67	4.44	.73	3.80	.79	4.24	.76
2. Examination Results that sent to students approximately 30-45 days after each examination	3.82	1.01	4.33	.70	4.33	.71	3.80	.42	3.98	.95
3. Grading System	4.28	.81	4.42	.64	4.56	.73	4.00	.47	4.32	.76
Total	3.95	.69	3.81	.57	4.13	.64	3.08	.47	3.89	.67

Note: 1.00 – 1.80 = Very Inadequate, 1.81 – 2.60 = Inadequate, 2.61 – 3.40 = Uncertain, 3.41 – 4.20 = Adequate, 4.21 – 5.00 = More than Adequate

Instructors rated only 3 of the 13 services as adequate for the STOU programs: item 13 “grading system” ( $M = 4.00, SD = .47$ ), item 11 “examination schedules” ( $M = 3.80, SD = .79$ ), and item 12 “examination results sent to students” ( $M = 3.80, SD = .42$ ). They also rated 8 of the 13 items as uncertain for the STOU program: item 10 “Examination Centers” ( $M = 3.40, SD = .84$ ), item 9 “professional experience activities” ( $M = 3.30, SD = 1.06$ ), item 1 “Regional Distance Education Centers” ( $M = 3.00, SD = .82$ ), item 6 “guidance for prospective students” ( $M = 2.90, SD = .88$ ), item 5 “library and information services” ( $M = 2.80, SD = .79$ ), item 7 “student activities” ( $M = 2.80, SD = .92$ ), item 2 “Provincial Study Centers in the main secondary school of every province” ( $M = 2.70, SD = .95$ ), and item 8 “practical experience programs” ( $M = 2.60, SD = 1.08$ ). In addition, they rated 2 of the 13 items were inadequate for the STOU program when participating in the ASEAN community: item 4 “Special Study Centers that work with government agencies” ( $M = 2.50, SD = .85$ ) and item 3 “STOU Corners in all provincial libraries” ( $M = 2.40, SD = .84$ ).

### **Finding Related to Research Question 5**

Research question 5 sought to analyze the difference between the attitudes of undergraduate students and graduate students toward the use of distance learning systems for Agricultural Extension and Development programs at STOU. The attitude means of the undergraduate students and graduate students (Master’s degree students and doctoral students) were calculated on 9 factors: (1) appropriate levels of distance learning channels, (2) satisfied levels to distance learning methods, (3) distance learning curriculum agreement, (4) factors for considering to study in STOU programs, (5) applicant qualification, (6) program objectives, (7) program structures, (8) adequacy of



distance learning system, and (9) adequacy of education service. The attitude means of the undergraduate students and graduate students are presented in Table 32.

Table 32 Grand Means of Students Toward Factors of Distance Learning Systems and Agricultural Extension and Development Programs

Students' Attitude toward	Undergraduate Student ( <i>n</i> = 251)		Graduate Student ( <i>n</i> = 113)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. Appropriateness of Distance Learning Channels	3.87	.75	3.74	.59
2. Satisfaction of Distance Learning Methods used in STOU Programs	3.77	.69	3.86	.52
3. Distance Learning Curriculum Agreement	4.24	.54	4.24	.45
4. Factors when Considering to Study in the STOU Programs	4.32	.59	4.32	.45
5. Applicant Qualifications when Students Apply for the STOU Programs	3.97	.77	4.47	.56
6. Program Objectives for the STOU Programs	4.53	.66	4.75	.40
7. Appropriateness of Program Structures	4.50	.55	4.64	.43
8. Adequacy of the STOU Learning System	4.03	.64	3.87	.57
9. Adequacy of Education Service for STOU Programs	3.95	.69	3.84	.58

Figure 20 presents the independent variable and dependent variables for comparison analysis. The independent variable was STOU student in two groups: undergraduate students (*n* = 251) and graduate students (*n* = 113). The dependent variables were 9 means of students' attitudes.

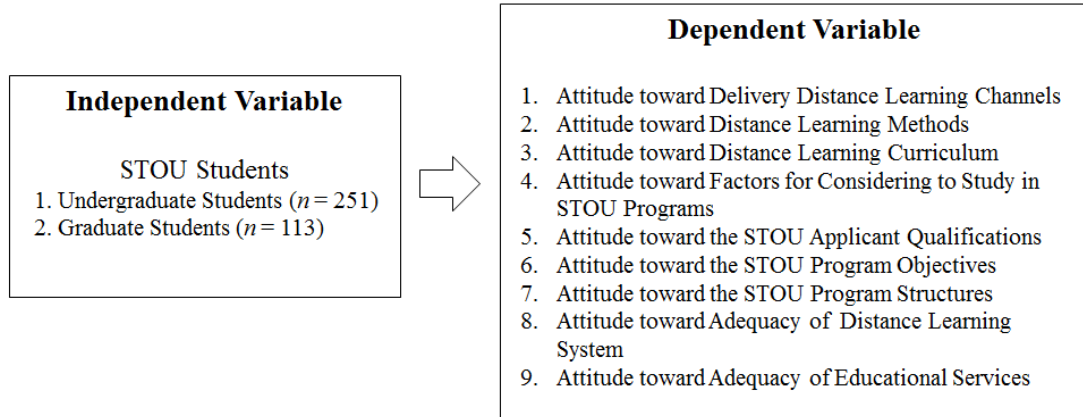


Figure 20 Variables for Research Question 5 (Comparison Statistics)

Checking normality via the Kolmogorov-Smirnov test, most of the students' attitude means were statistically significant ( $p < .05$ ), indicating the students' attitude means were not normally distributed for both undergraduate students and graduate students. Non-parametric statistics were used to analyze the data set. The Mann-Whitney U test was selected to analyze the data.

The Mann-Whitney test is designed to use data from two separate samples to evaluate differences between two populations. The Mann-Whitney test is a very useful alternative to the independent-measures  $t$ -test. Because the Mann-Whitney test does not require normal distributions or homogeneity of variance, it can be used in situations in which the  $t$ -test would be inappropriate (Gravetter & Wallnau, 2009).

The Mann-Whitney test statistics (Table 33) represented the results of analyzing the 9 students' attitude means. Four of the attitude comparisons were not significant ( $n_1 = 251, n_2 = 113, p > .05$ ). These were "*the appropriateness of distance learning channels*" ( $Mdn_1 = 4.40, Mdn_2 = 3.83, U = 12535.5, p = .075$ ), "*the satisfaction of distance learning methods used in STOU programs*" ( $Mdn_1 = 3.75, Mdn_2 = 3.88, U = 13236.0, p = .308$ ),

“the distance learning curriculum agreement” ( $Mdn_1 = 4.30, Mdn_2 = 4.30, U = 13808.5, p = .687$ ), “the factors when considering to study in the STOU programs” ( $Mdn_1 = 4.40, Mdn_2 = 4.40, U = 13732.5, p = .626$ ). These results indicated that the attitudes between the undergraduate students and graduate students were not different in distance learning channels, distance learning methods, distance learning curriculum, and factors when considering to study in the STOU programs.

Table 33 Comparison of Students’ Attitude between Undergraduate Students and Graduate Students

Students’ Attitude toward	STOU Students	<i>n</i>	<i>Mdn</i>	Mean Rank	<i>Z</i>	<i>U</i>	<i>p</i>
1. Appropriateness of Distance Learning Channels	Undergraduate Student	251	4.40	189.06	-1.78	12535.5	.075
	Graduate Student	113	3.83	167.93			
2. Satisfaction of Distance Learning Methods used in STOU Programs	Undergraduate Student	251	3.75	178.73	-1.02	13236.0	.308
	Graduate Student	113	3.88	190.87			
3. Distance Learning Curriculum Agreement	Undergraduate Student	251	4.30	183.99	-0.40	13808.5	.687
	Graduate Student	113	4.30	179.20			
4. Factors when Considering to Study in the STOU programs	Undergraduate Student	251	4.40	184.29	-0.49	13732.5	.626
	Graduate Student	113	4.40	178.53			
5. Applicant Qualifications when Students Apply for the STOU Programs	Undergraduate Student	251	4.00	160.24	-6.07*	8593.0	.000
	Graduate Student	113	4.67	231.96			
6. Program Objectives for the STOU Programs	Undergraduate Student	251	5.00	173.15	-2.81*	11834.0	.005
	Graduate Student	113	5.00	203.27			
7. Appropriateness of Program Structures	Undergraduate Student	251	4.66	174.72	-2.14**	12228.5	.033
	Graduate Student	113	4.80	199.78			
8. Adequacy of the STOU Learning System	Undergraduate Student	251	4.08	191.79	-2.51**	11849.5	.012
	Graduate Student	113	3.92	161.86			
9. Adequacy of Education Service for STOU Programs	Undergraduate Student	251	4.00	190.33	-2.12**	12216.5	.034
	Graduate Student	113	3.85	165.11			

Note: \*  $p < .01$ , \*\*  $p < .05$

However, over half of the attitude means of STOU students indicated statistical significance ( $n_1 = 251, n_2 = 113, p < .05$ ). The five attitude comparisons were “*the students’ attitude toward applicant qualifications when students apply for the STOU programs*” ( $Mdn_1 = 4.00, Mdn_2 = 4.67, U = 8593.0, p < .001$ ), “*the students’ attitude toward program Objectives for the STOU Programs*” ( $Mdn_1 = 5.00, Mdn_2 = 5.00, U = 11834.0, p = .005$ ), “*the students’ attitude toward appropriateness of program structures*” ( $Mdn_1 = 4.66, Mdn_2 = 4.80, U = 12228.5, p = .033$ ), “*the students’ attitude toward Adequacy of the STOU Learning System*” ( $Mdn_1 = 4.08, Mdn_2 = 3.92, U = 11849.5, p = .012$ ), and “*the students’ attitude toward adequacy of education service for STOU programs*” ( $Mdn_1 = 4.00, Mdn_2 = 3.85, U = 12216.5, p = .034$ ). These results indicated that there were different attitudes between undergraduate student and graduate student in STOU students’ qualification, STOU programs’ objectives, STOU program structures, adequacy of STOU learning system, and adequacy of STOU educational.

### **Participants’ Suggestions on the Program and the Distance Learning System**

An open-ended question is a type of question that allows respondents to generate an answer without limitations regarding length or content (Beins & McCarthy, 2012). To fulfill research question 3 and research question 4, two open-ended questions were asked to students and instructors based on their knowledge and experiences toward STOU programs and STOU distance learning system for participating in the ASEAN community.

This section covers 194 participants’ suggestions toward the STOU Agricultural Extension and Development programs and the STOU distance learning system. Two open-ended questions were asked to examine students and instructors suggestions. The

first open-ended question asked was about respondents' suggestions toward the STOU programs. The results from the first question were categorized in 2 categories: (1) program curriculum and (2) program structure. The second open-ended question asked was about respondents' suggestions toward the STOU distance learning system. The results from the second question were categorized in 3 categories: (1) distance learning method, (2) delivery channel, and (3) student support.

### **Program Curriculum**

There were 53 suggestions about STOU curriculum from undergraduate students, graduate students, and instructors who responded to the open-ended questions. These suggestions were divided in 4 categories: (1) international program, (2) program activities, (3) current program, and (4) other suggestion about STOU curriculum.

The first item was about international programs. Respondents suggested that STOU should have an international curriculum that included an English program and an ASEAN program. Some respondents suggested that the current program should be translated into an English version and an ASEAN version. The international curriculum would present an excellent opportunity for international students and students in ASEAN countries to study in STOU program.

The second item was about program activities within the STOU curriculum. Respondents indicated that STOU should improve its program activities, such as conducting field trips in ASEAN countries, developing an international seminar class about professional experience in agricultural extension in Thailand or ASEAN countries, conducting training programs, and conducting workshop about the ASEAN community.

The third item was about the current STOU program. Respondents stated that the current STOU programs were appropriate for participating in the ASEAN community. They also stated that “the current programs were appropriate for agricultural extension agents” and “studying at STOU was the best choice for students who have jobs or agriculturists”.

The fourth item was about other suggestions. Students and instructors suggested that STOU should improve some points in the program curriculum, such as concentrating with youth learning, integrating programs, conducting pre-examination before studying, concentrating with self-development, improving the Thai education system, concentrating with students’ experience, knowledge, skill, attitude, and language skill, and promoting Thai youth to study agricultural extension and development program.

### **Program Structure**

There were 53 participant suggestions toward the programs structures when participating in the ASEAN community. These suggestions were placed in 3 categories: (1) ASEAN information, (2) teaching content improvement, and (3) international language.

Respondents suggested that STOU should provide the ASEAN information in program structures. Most suggestions were about the ASEAN culture, the ASEAN tradition, and agricultural systems within ASEAN countries. Respondents also suggested that STOU textbooks should provide knowledge about competition in ASEAN agricultural markets, logistics among ASEAN countries, agricultural management in the ASEAN community, agricultural extension in ASEAN countries, livestock in ASEAN countries, and youth learning and development for participating in the ASEAN

community. In addition, students and instructors suggested that program structures should apply the three pillars of the ASEAN community to program structures, and should analyze advantages and disadvantages for Thailand when participating in the ASEAN community.

Respondents suggested that STOU should improve its teaching content. The most common suggestion on content was about agricultural marketing and development. They also suggested agricultural situation forecasting, international agricultural logistics, agricultural management, organization development, and strategic planning should be improved in the program structure. In addition, respondents suggested that the content should be updated, clear, easy to read, and more pictures should be added in the textbooks.

The third item was about international language. Respondents suggested that the language will be important for participating in the ASEAN community. They suggested that both English and ASEAN language should be included in the textbooks for students to improve their language skills. They also suggested a DVD in English would be an effective media for learning.

### **Distance Learning Methods**

There were 28 participant suggestions toward distance learning methods. These suggestions were placed in 4 categories: (1) e-Learning, (2) media development, (3) learning devices, and (4) other suggestions.

Respondents suggested that e-Learning was the best channel for the program. Reasons given were that e-Learning was useful, convenient, and decreased students' expenses. Students could learn everywhere and at every time. In addition, e-Learning was

an appropriate channel for special contents, such as English, ASEAN language, organization management, teamwork, and team-networking in the ASEAN community.

The second item was media development. Respondents suggested that STOU should improve its educational media, such as local media, video, and English media for agricultural extension knowledge. They also suggested that these media should be current.

Respondents suggested that computers were important learning device. They suggested that STOU students should have their own computers for their learning.

Respondents also made additional suggestions. They suggested that the studies about distance learning in the ASEAN were necessary for distance learning methods. One suggestion stated that the current STOU system was appropriate, and another suggestion stated that the learning network should be a learning method at STOU.

### **Delivery Channel**

There were 35 participant suggestions toward the STOU delivery channels. These suggestions were categorized in 5 items: (1) textbooks, (2) mixed method, (3) internet, (4) face-to-face, and (5) other suggestions.

The first item was about textbooks. Respondents stated that STOU should improve its textbook delivery process. The textbooks were shipped to students too late. Postal tracking number should be used with this delivery channel.

Respondents made suggestions about mixed methods. They stated that mixed delivery channels would be appropriate for STOU students. Students would choose delivery channels that they can access. STOU delivery channels should cover all areas in



Thailand. They also suggested appropriate delivery channels, such as the internet, a smartphone, a computer, and a DVD.

Respondents suggested that the internet was an appropriate delivery channel for STOU programs. They stated that STOU should improve the STOU internet networking to support a lot of students at the same time. The educational content via the internet should be current and provide e-Learning via the STOU internet networking.

Respondents suggested that the face-to-face tutorial was an appropriate delivery channel. They stated that the face-to-face tutorial should be provided via Skype or at Region Distance Learning Centers.

Respondents also made other suggestions. They suggested that STOU should improve STOU TV programs to motivate students to learn. They also commented that the satellite was not an appropriate delivery channel because most students did not have satellite receivers.

### **Student Support**

There were 22 suggestions regarding student support. These suggestions were placed in 4 categories: (1) information services, (2) student activities, (3) examination centers, and (4) other suggestions.

Respondents suggested that STOU should improve its information services, such as monitoring system about students' learning progression, the job center, current information websites, its advisor system, and its registration system.

Respondents suggested that STOU should improve student activities. Most suggestions were about student exchanges among ASEAN countries. They also suggested

that STOU should provide English camps to help increase English skills among their students.

Respondents made suggestions regarding examination centers. They stated that STOU should increase the number of examination centers so students could take examinations everywhere in the ASEAN countries. For other suggestion, Respondents stated that the current student supports were appropriate.

### **Results from the Focus Group**

The second procedure of this study was conducting a focus group to listen and gather information about students' perception of STOU programs and distance learning systems. The purpose of conducting a focus group is to listen and gather information and it is a way to better understand how people feel or think about an issue, product, or service (Krueger & Casey, 2009). Thus, focus group was a better way to understand how students feel and think about STOU programs and distance learning systems. A focus group discussion guide was developed for the two focus groups (undergraduate and graduate students).

Participants provided their opinions and information via talking and writing on note cards. The results of the focus groups were analyzed and coded into 6 outcomes or categories: (1) students motivation to studying the STOU programs (*M*), (2) the strength of the STOU programs (*P*), (3) students' knowledge about participating in ASEAN Community (*A*), (4) the benefits of the program (*B*), (5) the appropriate learning methods for program development (*LM*), and the appropriate learning support for program development (*LS*). Table 34 presents the questions used in the focus groups, outcomes, and the codes used summarizing responses.

Table 34 Focus Group Questions and Outcomes

Question	Outcome (Code)
1. What persuaded you to join the STOU Agricultural Extension program?	<p>1. Students motivation to studying the STOU programs (<i>M</i>)</p> <p>1.1 Upgrade educational qualification (<i>M-UG</i>)</p> <p>1.2 Studying without taking time out from work (<i>M-TW</i>)</p> <p>1.3 Studying in other institutions at the same time (<i>M-OI</i>)</p> <p>1.4 Program is useful for job (<i>M-UJ</i>)</p> <p>1.5 Program is affordable (<i>M-PA</i>)</p> <p>1.6 Others (<i>M-OT</i>)</p>
2. What was your impression of the STOU Agricultural Extension program?	<p>2. The strength of the STOU programs (<i>P</i>)</p> <p>2.1 Delivery channel (<i>P-DC</i>)</p> <p>2.2 Distance learning methods (<i>P-DM</i>)</p> <p>2.3 Program curriculum (<i>P-PC</i>)</p> <p>2.4 Applicant qualifications (<i>P-AQ</i>)</p> <p>2.5 Program objectives (<i>P-PO</i>)</p> <p>2.6 Program structures (<i>P-PS</i>)</p> <p>2.7 Others (<i>P-OT</i>)</p>
3. What are the important factors that affect Thai agriculture for participating in the ASEAN Community?	<p>3. Students' knowledge about participating in ASEAN Community (<i>A</i>)</p> <p>3.1 Economy (<i>A-AEC</i>)</p> <p>3.2 Politic &amp; security (<i>A-APSC</i>)</p> <p>3.3 Social &amp; culture (<i>A-ASCC</i>)</p> <p>3.4 Others (<i>A-OT</i>)</p>
4. What benefits for the program prepared you for participating in the ASEAN Community?	<p>4. The benefits of the program (<i>B</i>)</p> <p>4.1 Economy (<i>B-AEC</i>)</p> <p>4.2 Politic &amp; security (<i>B-APSC</i>)</p> <p>4.3 Social &amp; culture (<i>B-ASCC</i>)</p> <p>4.4 Others (<i>B-OT</i>)</p>
5. What learning methods are appropriate for program development?	<p>5. The appropriate learning methods for program development (<i>LM</i>)</p> <p>5.1 Printed materials (<i>LM-PM</i>)</p> <p>5.2 Radio broadcasting (<i>LM-RB</i>)</p> <p>5.3 Television broadcasting (<i>LM-TV</i>)</p> <p>5.4 Media on demand (<i>LM-MD</i>)</p> <p>5.5 Multimedia (<i>LM-MT</i>)</p> <p>5.6 e-Learning/e-Training (<i>LM-EL</i>)</p> <p>5.7 e-Tutorial (<i>LM-ET</i>)</p> <p>5.8 Face-to-face tutorial (<i>LM-FF</i>)</p> <p>5.9 Others (<i>LM-OT</i>)</p>
6. What are the additional supports for program development?	<p>6. The appropriate learning support for program development (<i>LS</i>)</p> <p>6.1 Regional Center (<i>LS-RC</i>)</p> <p>6.2 Library (<i>LS-LB</i>)</p> <p>6.3 Student activities (<i>LS-SA</i>)</p> <p>6.4 Student information (<i>LS-SI</i>)</p> <p>6.5 Examination &amp; grade (<i>LS-EG</i>)</p> <p>6.6 Others (<i>LS-OT</i>)</p>

## Focus Group Results from Undergraduate Students

The researcher conducted a focus group to collect information about undergraduate students' opinions of the STOU programs and the STOU distance learning systems. Fifteen undergraduate students were randomly selected from the undergraduate students who were enrolled in the professional experience in agricultural extension class.

Undergraduate students participating in the focus group were 8 males and 7 females. They came from various residences: 5 students from the central region, 4 students from the east region, 3 students from the north, one student from the south, one student from Bangkok, and one student from the northeast. Six of the 15 participants were STOU students for 4 years, 4 students were STOU students for 5 years, 3 students were STOU students for 6 years, a student was a STOU student for 1 year, and one student was a STOU student for 10 years. The participants provided their opinion and information via talking and writing on cards. The results of focus groups were analyzed and coded into 6 outcomes.

### *Outcome 1: To understand what motivates students to study the STOU programs*

To understand what motivated students to study in the STOU program, undergraduate students were asked: “*What persuaded you to join the STOU Agricultural Extension program?*” Undergraduate students shared their comments why they decided to study in the STOU programs. Their responses were categorized into 4 categories: the program was useful for their jobs (*M-UJ*), they want to upgrade their educational qualifications (*M-UG*), they can study without taking time out from work (*M-TW*), and other comments (*M-OT*).

The most common reason that undergraduate students discussed in the focus group was that the program was useful for their jobs (*M-UJ*). For example, respondents said they joined the STOU Agricultural Extension program because:

- *“The STOU programs relate to my jobs, and I can apply to develop my job.”*
- *“The STOU curriculum and textbooks relate to my experience and career.”*
- *“The contents in the program are my works.”*
- *“The curriculum and textbooks relate to my experience and career.”*
- *“I can apply the STOU contents to my jobs and create new jobs.”*
- *“Agriculture is my family’s job, so I need more knowledge and skill to develop my farm.”*
- *“Distance learning is appropriate for my job, and I have a chance to study.”*
- *“I want self-confidence for working with others.”*
- *“I want knowledge to develop and solve problems in my community.”*
- *“I am interested in the STOU curriculum and contents that I can apply in my life and career.”*

The next reason that motivated undergraduate students to study in the STOU program was upgrading their educational qualifications. Undergraduate students stated that they wanted to upgrade their educational qualifications (*M-UG*) and they wanted to improve their knowledge and skills in agriculture. The respondents said they joined the STOU Agricultural Extension program because:

- *“I study STOU program because I want higher degree to upgrade my position.”*
- *“Studying at STOU is a self-development, and I can improve my respond ability.”*
- *“I study here because I want more agricultural knowledge to improve my parents’ farm.”*
- *“I come from agricultural family, and I want to increase my knowledge and skill in agriculture.”*
- *“My work is not agriculture, but I need more knowledge about agriculture. After retirement, I will be an agriculturist.”*
- *“Students study the STOU programs because they want to meet their dream and confirm that they can succeed.”*

The third reason that motivated undergraduate students to study in the STOU program was studying without taking time out of work (*M-TW*). Undergraduate students stated that they studied at STOU because they had a job, and they can work during study. For example, the respondents said they joined the STOU Agricultural Extension program because:

- *“I choose to study STOU program because I can work during study and apply in to my work.”*

There were other various reasons (*M-OT*) that motivated undergraduate students to study in the STOU program. Undergraduate students said that they studied STOU programs because:

- *“I think distance learning is easy to learn. I can study via internet and read textbook. It is very convenient for me.”*
- *“I am an agriculturist, so I want to share my knowledge with other agriculturists in my communities. In future, I may be a community leader.”*
- *“My parents want to see my commencement. I want my parents happy and proud of me.”*
- *“I work as private employee. I study here because I want to be a part of safety agribusiness in the future.”*

*Outcome 2: To understand the strength of the STOU programs*

To understand the strength of the STOU programs, undergraduate students were asked to answer: *“What was your impression of the STOU Agricultural Extension program?”* Undergraduate students were extremely positive when talking about the STOU program. Most students offered the reason that the program was convenient for them. They can study at their home by reading. Undergraduate students shared their comments about the STOU program that were classified into 5 categories: Delivery Channel (*P-DC*), Program Curriculum (*P-PC*), Applicant qualifications (*P-AQ*), Program objectives (*P-PO*), and Program Structures (*P-PS*).

The first comment toward the strength of the STOU program was applicant qualifications (*P-AQ*). Undergraduate students were satisfied with the applicant qualifications when applying to the Bachelor’s degree program. However, they also discussed and offered comments to improve the applicant qualifications when participating in the ASEAN community. For example, undergraduates made the

following comments about the applicant qualifications when participating in the ASEAN community:

- *“The first concern is applicants must have completed high school.”*
- *“STOU is an open university. Thus, everyone who wants to study agriculture, they should have opportunity to study. No condition.”*
- *“Applicants should be agriculturists who can read and write.”*
- *“Applicants intend to seriously develop agriculture.”*
- *“On my opinion, I think applicants should be agriculturist, and hold vocational certificate or have working experience over 1 year.”*
- *“Applicants should not be only agriculturist. Applicants who work in agricultural field more than 3 years will be appropriate to study in the program.”*
- *“When participating in the ASEAN community, applicants should have background about the ASEAN.”*

The second comment about the program was program objectives (P-PO).

Undergraduate students made the following comments about the program objectives when participating in the ASEAN community:

- *“After completing the program, students can apply to their daily life-styles and can solve their problems.”*
- *“I think the main concept should be about providing concepts about sustainable natural resources and environment.”*



- *“When participating in the ASEAN community, students should have experience via field trip in ASEAN countries and share their knowledge with agriculturist in ASEAN countries.”*

The next comment about the program was regarding the program curriculum (P-PC). Undergraduate students discussed and said the following about the program curriculum:

- *“I think the STOU curriculum is appropriate. I can apply it in my work and life-style.”*
- *“For curriculum improvement, STOU program should have more agricultural seminar. Only a class is not appropriate for students who want more experience and skill.”*
- *“STOU should have a program about ASEAN that include agricultural extension in ASEAN countries, and ASEAN language.”*
- *“The curriculum should be improved to increase students’ skill in English, such as agricultural vocabulary in English.”*
- *“To fulfill students’ experience, STOU should include ASEAN field trip in program curriculum.”*

The next comment when talking about STOU programs was regarding program structure (P-PS). Undergraduate students discussed and said the following about the program structure:

- *“I need more experience and knowledge about agricultural extension in the field. Not only in the textbooks. Program should be included with field trip or seminar class.”*

- *“In the textbooks, there are many theories that too difficult to understand. Please explain in easy words, display with pictures or tables.”*
- *“Agricultural extension linking to ASEAN market.”*
- *“Agricultural Marketing and Exporting will be important for agriculturists and agricultural extension agents, so STOU should concentrate with these subjects when participating in the ASEAN community.”*
- *“Thai and international agricultural marketing management should be appropriate for program structure.”*
- *“Program structures should include subjects that are step by step and concentrate with self-reliance concept.”*
- *“The interesting concepts that should include in program structure are agricultural tradition in ASEAN countries, and foundation of agricultural law.”*

The next comment when talking about STOU programs was about delivery channels (P-DC). Undergraduate students made the following comments about delivery channels:

- *“Textbooks via post mail are the best channel for my study. Other channels will increase my expense.”*
- *“STOU has a TV channel, so our school should produce agricultural TV programs broadcast via STOU channel.”*
- *“Textbooks and workbooks should be sent via post mail on time.”*

The last comment about the STOU program was regarding the delivery method (P-DM). Undergraduate students made the following comments about delivery methods:

- *“The educational materials should be easy and current.”*
- *“STOU educational materials are useful and I can apply to my work.”*

*Outcome 3: To understand students’ knowledge about participating in the ASEAN Community*

To understand students’ knowledge about the ASEAN Community, students were asked to answer: *“What are the important factors that affect Thai agriculture for participating in the ASEAN Community?”* Their comments were categorized in 3 categories: Economic (*A-AEC*), Social and Culture (*A-ASCC*), and other comments (*A-OT*).

Most undergraduate students shared their opinions that the most important factor affecting Thai agriculture when participating in ASEAN community was about the ASEAN Economic Community (*A-AEC*). They made the following comments about the factors affecting Thai agriculture:

- *“The standard of agricultural products must be improved.”*
- *“Government’s policies should promote about the logistics among ASEAN countries.”*
- *“The land for planting in Thailand has been changed, the plenty of land for planting decrease. Thai agriculturists have to pay more money to improve the soil, so the costs will be high.”*

There was a comment about social and culture (*A-ASCC*) when taking about participating in the ASEAN community. For example, a respondent said that:

- *“The natural resources in Thailand will be affected when participating in ASEAN community such as forest and water.”*

In addition, another comment (*A-OT*) about the ASEAN Community was:

- *“There is a little information about the effect when participating in ASEAN Community.”*

*Outcome 4: To understand program benefits for participating in the ASEAN Community*

Undergraduate students were asked to answer: *“What benefits of the program prepared you for participating in the ASEAN Community?”* Undergraduate students agreed that the STOU programs were useful for their work and life styles. Their comments were categorized into 2 categories: Economy (*B-AEC*) and Social and Culture (*B-ASCC*).

The first comments were about the economy (*B-AEC*). They stated that the program was useful for them. However, they also said that:

- *“The program should inform the important agricultural information among the ASEAN countries to Thai agriculturists.”*
- *“The program should inform about farmer networking and agricultural cooperative for Thai agriculturists when participating ASEAN community.”*
- *“Thai government should have new policy about the changing of Thai agriculture when participating in ASEAN community.”*

Undergraduate students described changes in human development (*B-ASCC*) and had a comment that the program should be improved when participating in the ASEAN community. For example, a student said that:

- *“STOU should have human development for agriculture program to prepare the people who involving Thai agriculture.”*

*Outcome 5: To understand appropriate learning methods for program development*

Undergraduate students were asked to answer: *“What learning methods are appropriate for program development?”* Most students stated that the STOU distance learning systems were appropriate for agriculturists and students who were working. Their comments toward learning methods were categorized into 5 categories: printed materials (*LM-PM*), face-to-face Tutorial (*LM-FF*), e-Learning (*LM-EL*), TV broadcasting (*LM-TV*), and other comments (*LM-OT*).

The first comment was about printed materials (*LM-PM*). Undergraduate students stated that textbooks and workbooks were appropriate for their study. The following were examples that they said about the printed materials:

- *“I study STOU program because textbooks were useful that I can read every time and everywhere.”*
- *“Study via textbooks is very convenient for my study. I do not have time to learn via the internet or other methods.”*

The second set of comments were regarding face-to-face tutorial (*LM-FF*). Some undergraduate students did not join face-to-face tutorial. However, a student who joined the face-to-face tutorial answered the question that he liked face-to-face Tutorials. The following was his comment:

- *“Face-to-face Tutorial is an appropriate learning method. I like face-to-face tutorial because this method is useful for my learning. I can ask instructor to clear my confusions.”*

The third comment was about e-Learning and the internet (*LM-EL*).

Undergraduate students agreed that the internet would be an appropriate method when participating in the ASEAN community. They also commented that studying via e-Learning, students should have skills in distance learning devices. The followings were their comments about e-Learning:

- *“The internet is an appropriate channel for distance learning. All educational materials can apply to the internet technologies.”*
- *“In next few years, the internet, personal computer, and internet provider will be an important learning method for distance learning in Thailand. The e-Learning will be the main educational instruction.”*

The fourth comment about learning methods was regarding TV programs (*LM-TV*). Undergraduate students stated that TV broadcasting was an appropriate method for learning. They suggested that STOU should improve instructional TV programs to motivate students. The following was a statement that a student said about TV programs:

- *“Every household in Thailand has a TV. STOU should improve educational programs and inform students about program schedules. TV will be an appropriate learning method for students.”*

The last category about learning methods was other comments (*LM-OT*).

Undergraduate students talked about social media that should be applying to distance learning method, such as Line, MSN, Facebook, and Twitter. The following were samples that students said in focus group:

- *“STOU should improve the delivery channel to cover every area in Thailand.”*

- *“Social media applications were popular in Thailand. STOU should apply these technologies in distance learning, such as Twitter, Facebook, Line, and MSN.”*
- *“Instructors should apply social network such as Facebook for distance learning channel.”*
- *“I need “Line group” for my learning.”*

*Outcome 6: To understand the appropriate learning support for program development*

Undergraduate students were asked to answer *“What are the additional supports needed for program development?”* Undergraduate students agreed that learning supports are very important for STOU students. They stated that STOU must improve its educational services when participating in the ASEAN community. Their comments were categorized into 5 categories: Educational Regional Center (*LS-RC*), student activities (*LS-AC*), library (*LS-LB*), examination and grade (*LS-EG*), and student information (*LS-SI*).

The first comment was about the Educational Regional Centers (*LS-RC*).

Undergraduate students stated that the centers were not covered around Thailand. STOU should have Educational Regional Centers in every Tambol (County).

- *“STOU have many students around Thailand, so STOU should have Study Centers in every Tambol.”*

The second comment was regarding student activities (*LS-AC*). Undergraduate students were satisfied with current student activities. However, they stated that when participating in the ASEAN community, STOU should provide student activities about

English camps, field trips, and student exchanges. The following were statements that undergraduate students said regarding student activities:

- *“STOU should have student exchanging program among universities in the ASEAN countries.”*
- *“STOU should provide projects for students to increase English ability, such as English camp.”*

The third comment was about the library (*LS-LB*). Undergraduate students discussed that STOU should have a special e-library for students in ASEAN countries. The following was what an undergraduate student said about the library.

- *“STOU should have special e-library for Thai and ASEAN students to search data and information about agricultural in Thailand and ASEAN countries.”*

The fourth comment was about examination and grading (*LS-EG*). Undergraduate students were satisfied with the grading report. However, they discussed and suggested that STOU should increase examination centers and e-examination should be used for students. The following was what an undergraduate student said regarding the examination centers.

- *“STOU should have e-examination via the internet according to students’ free time.”*

The last comment toward learning support was student information (*LS-SI*). Undergraduate students discussed that STOU should use social media networking to inform students. The following was what an undergraduate student said about the student information.



- “STOU should use social media networking, such as Line or SMS to inform students about learning schedule, examination schedule, and other important information.”

### **Focus Group Results from Master’s Degree Students**

The researcher conducted a focus group to collect information about graduate students’ opinions of the STOU program and the STOU distance learning system. Fifteen graduate students were randomly selected from the graduate students who were enrolled in the Thesis class.

Master’s degree students participating in focus group were 8 males and 7 females. They came from various residences: 7 students from the central region, 3 students from the northeast, 2 students from the south, 2 students from the east region, and one student from the north. All graduate students were STOU students for 2 years. The graduate students provided their opinions and information via talking and writing on note cards. The results of focus groups were analyzed and coded into 6 outcomes or categories as follow.

#### *Outcome 1: To understand what motivates students to study STOU programs*

Master’s degree students were asked to answer: “*What persuaded you to join the STOU Agricultural Extension program?*” They shared their comments as to why they studied the STOU program. Their responses were categorized into 4 categories: the program was useful for their jobs (*M-UJ*), they want to upgrade their educational qualifications (*M-UG*), they can study without taking time out from work (*M-TW*), and other comments (*M-OT*).

The first reason that Master's degree students discussed in the focus group was the program was that the program was useful for their jobs (*M-UJ*). For example, respondents said they joined the STOU Agricultural Extension program because:

- *“I work as agricultural extension agent. The agricultural extension and development program relate to my jobs, and I can apply to my job.”*
- *“I study STOU program because I want to develop my thought toward agricultural extension theory.”*
- *“I need more knowledge and information about agriculture to apply to my work.”*
- *“Studying in the programs can change my thought and attitude toward my extension agents' role.”*
- *“Studying at STOU, I have working network to share my knowledge and skill with my farmers.”*
- *“I decide to study in the program because when I graduate I will be promoted in higher position in my job.”*

The next reason that motivated Master's degree students to study the STOU programs was upgrading their educational qualifications. Master's degree students stated that they wanted to upgrade their educational qualifications (*M-UG*). For example, respondents said they joined the STOU Agricultural Extension program because:

- *“I study STOU program because I want my degree and develop my work.”*
- *“I believe that when I apply to study the STOU program I am sure to graduate the Master's degree. I will have success in my lives.”*

The third reason that motivated Master's degree students to study STOU programs was studying without taking time out of work (*M-TW*). Master's degree students stated that they studied at STOU because they had a job and they can work during study. The following a reason given by a respondent in the focus group:

- *“I study the STOU program because I have a job. Open University and distance learning are convenience. I can work during study.”*

There were many other reasons (*M-OT*) that motivated Master's degree students to study the STOU programs. Master's degree students said that they studied the STOU programs because:

- *“STOU is a famous educational institute that provide agricultural extension program. There were many qualitative extension agents who graduated from STOU, so I decide to study in the program.”*
- *“There are many agricultural extension agents studying STOU programs at my office, so they are the best friends for helping, studying, and working.”*
- *“I study in the program because I got support from my office (chief) and my families.”*

#### *Outcome 2: To understand the strength of STOU program*

Master's degree students were asked to answer: *“What was your impression of the STOU Agricultural Extension program?”* Master's degree students had positive comments toward the STOU program. Students offered reasons why the programs were appropriate for agricultural extension agents. They can apply information to their work

and apply their work to their class assignments. Students' responses were categorized into 4 categories: Applicant qualifications (*P-AQ*), Program objectives (*P-PO*), Program Curriculum (*P-PC*), and Program Structures (*P-PS*).

The first comment toward the STOU programs was regarding applicant qualifications (*P-AQ*). Master's degree students were satisfied with the applicant qualifications when applying to the Master's degree program. However, they also responded and offered comments to improve applicant qualifications. The following were examples that Master's degree students said about the applicant qualifications:

- *“For Master’ degree, applicants should hold a bachelor’s degree in all agricultural majors and hold 2.75 grade average.”*
- *“For participating in the ASEAN community, applicants should have skill in English. The English score test should be used for application.”*
- *“If applicants do not meet qualification, special options should be used, such as applicants intend to be agriculturists, agricultural extension agents, and have working experience in agriculture more than 1 year.”*

The second comment about the STOU program was about program objectives (*P-PO*). Master's degree students made the following comments about program objectives when participating in the ASEAN community:

- *“To develop agricultural extension program to be an international program.”*
- *“Students can apply concepts and theories of agricultural extension and development to their extension area.”*

- *“To produce graduates who have knowledge and understanding in ASEAN agricultural extension.”*
- *“To produce appropriate graduates who have good performance in ASEAN community.”*

The third comment about the STOU program was regarding program curriculum (P-PC). Master’s degree students said the following about the program curriculum:

- *“To improve international agricultural program, English is necessary. STOU should provide international agricultural extension and development program for students in the ASEAN countries.”*
- *“The current program should have subject about English for agricultural extension.”*

The last comment when talking about STOU program was about program structures (P-PS). Master’s degree students were satisfied with the current programs.

They made the following comments about the program structures:

- *“The program structures should include Human Resources Development and Management in Agricultural Extension.”*
- *“Psychology are important for program structure especially community problem solving.”*
- *“For changing in the ASEAN community, agricultural marketing, agricultural product development, agricultural logistics are important for changing in Thailand. STOU should provide these concepts in program structures.”*

*Outcome 3: To understand students' knowledge about participating in the ASEAN community*

Master's degree students were asked to answer: *“What are the important factors that affect Thai agriculture for participating in the ASEAN Community?”* Their comments were categorized into one category: Economic (A-AEC).

Master's degree students shared their opinions that the most important factor affecting Thai agriculture when participating in ASEAN community was about ASEAN Economic Community (A-AEC). They made the following comments about the program structures:

- *“The biggest effect for Thai agriculture when participating in ASEAN community is the competitive export among ASEAN countries. This effect is an important issue for Thai government and people who work in agricultural field.”*
- *“All organizations in Thailand should have the appropriate ways to support Thai agricultural products when participating in the ASEAN community.”*
- *“Thai agriculturists have to improve their products, and ready for competition.”*

*Outcome 4: To understand program benefits for participating in the ASEAN community*

Master's degree students were asked to answer: *“What benefits of the program prepared you for participating in the ASEAN Community?”* Master's degree students agreed that the STOU programs were useful for their jobs. Their comments were categorized into one category: Economy (B-AEC). They stated that the program is useful

for them. The following was an example that Master's degree students said in focus group.

- *“The current program is useful for participating in the ASEAN community. For example, I got more knowledge about ASEAN countries and others in the International Agricultural Extension and Development class.”*

*Outcome 5: To understand appropriate learning methods for program development*

Master's degree students were asked to answer: *“What learning methods are appropriate for program development?”* Master's degree students stated that current distance learning systems were appropriate for them. Their comments toward learning methods were categorized into 3 categories: printed materials (*LM-PM*), face-to-face Tutorials (*LM-FF*), and e-Learning (*LM-EL*).

The first comment was about printed materials (*LM-PM*). Master's degree students stated that the STOU textbooks were appropriate for their study. The following were examples that they said about printed material:

- *“I want to study via textbooks and share with my friends and instructors in Seminar classes.”*
- *“STOU textbooks were useful, but they come to me too late. STOU should improve this system.”*

The second comment was regarding face-to-face Tutorials (*LM-FF*). All Master's degree students had experience with face-to-face Tutorials in seminar classes. Students were satisfied with face-to-face Tutorials. The following was an example of one statement that student said in focus group.

- *“STOU should have video conference system for interaction between instructors and students.”*

The third comment was about e-Learning (*LM-EL*). Master’s degree students agreed that the internet was an appropriate method for distance learning. All students had experience in e-Learning classes. They commented that STOU should improve e-Learning systems to support students in the same time. E-Learning should be easy for students to access. The following was a comment a student made about e-Learning:

- *“E-Learning is an appropriate learning method for distance learning. Multimedia about educational contents should be applied in e-Learning and webpage.”*

*Outcome 6: To understand the appropriate learning support for program development*

Master’s degree students were asked to answer *“What are the additional supports needed for program development?”* Master’s degree students agreed that learning supports are very important for the STOU students. Their comments were categorized into 2 categories: Regional Centers (*LS-RC*) and the library (*LS-LB*).

The first comment was about the Educational Regional Centers (*LS-RC*). Master’s degree students had experience at the Educational Regional Centers when they participated in the seminar classes. They stated that the Centers were useful that they studied near their home. The followings were examples as Master’s degree students said about the Educational Regional Centers:

- *“STOU should improve classrooms for lectures and seminar at Educational Regional Centers.”*



- *“There were many students used classrooms at the weekend. Regional Distance Learning Centers are not adequate for students.”*

The second comment was regarding the library (*LS-LB*). Master’s degree students discussed that the STOU library was necessary for their learning. The followings were examples of comments that Master’s degree students said about the STOU libraries.

- *“Libraries at Regional Distance Learning Centers should have more textbooks and media for students.”*
- *“Library at STOU should have more current textbooks.”*

## CHAPTER V

### CONCLUSIONS, DISCUSSION AND RECOMENDATIONS

The purpose of this chapter is to summarize the study and present conclusions on the data collected from instructors and students who participated in the study. This chapter will also provide recommendations for future research. The research questions for the study were as follows:

1. What was the socioeconomic status of instructors and students at Sukhothai Thammathirat Open University that offer Agricultural Extension and Development Programs?
2. Did students at Sukhothai Thammathirat Open University have accurate knowledge about the ASEAN Community?
3. What were the attitudes of undergraduate, graduate students, and instructors at Sukhothai Thammathirat Open University toward Agricultural Extension and Development programs?
4. What were the attitudes of undergraduate and graduate students, and instructors at Sukhothai Thammathirat Open University toward distance learning system for Agricultural Extension and Development programs?
5. Was there a difference between the attitudes of undergraduate students and graduate students towards the use of distance learning systems for Agricultural Extension and Development programs?

## Conclusions

The purpose of this study was to determine the attitudes of instructors and students in the Thai Open University toward the distance learning system for the Agricultural Extension program. Conclusions are based on the students and instructors who were studying and teaching in the Spring Semester at Sukhothai Thammathirat Open University. This did not include drop-out students; therefore, the conclusions cannot be generalized to all students in the Agricultural Extension Program at STOU.

### Socioeconomic Status of STOU Instructors and Students

Undergraduate students were male, married, and employees who worked in private companies or the government with 0 - 10 years of work experience. They lived in central and northeast Thailand. The monthly income for undergraduate students was 9,000 - 15,000 baht. Most students spent equal to or less than 5,000 baht for their learning expenses per semester, and greatest expense they had was for textbooks. Undergraduate students had been students at STOU for 3 - 4 years and had the same amount of experience with distance learning systems. Undergraduate students had “*electricity*”, “*a television*”, “*a VCD player*”, “*a DVD player*”, and “*a personal computer*” to use when participating in distance learning education. Importance devices for undergraduate students to have in distance learning education were “*internet access*”, “*electricity*”, “*a personal computer*”, “*a satellite receiver*”, “*an e-mail address*”, “*a DVD player*”, “*a smart phone or tablet*”, “*a VCD player*”, “*a compact disc player*”, “*a room for study*”, “*an mp3 player*”, “*a video tape player*”, “*a radio, and a television*”. Undergraduate students had average or above average with all skills.

Master's degree students were single females who worked as extension agents for the government with 0 – 10 years of work experience. Master's degree students were from northeast and north Thailand. They earned 15,001 - 18,000 baht per month, spent 25,001 – 30,000 baht for their learning per semester with their greatest expense on tuition. Master's degree students had been at STOU for 1 - 2 years and had the same amount of experience in distance learning. Master's degree students had “*a personal computer*”, “*internet access*”, “*electricity*”, “*an e-mail address*”, and “*a television*” to use for distance learning education. Importance devices for Master's degree students to have in distance learning education were “*electricity*”, “*a personal computer*”, “*internet access*”, “*an e-mail address*”, “*a smart phone or tablet*”, “*a satellite receiver*”, “*a television*”, “*a room for study*”, “*a DVD player*”, “*a VCD player*”, and “*an mp3 player*”. Master's degree students had average or above average skills in all distance learning skill areas.

Doctoral students were male, married, and worked as an officer for the government with 11 – 30 years of working experience. Doctoral students were from northeast Thailand. They earned over 24,000 baht per month, spent over 40,000 baht for their learning per semester, and their greatest expense was tuition. Doctoral students had been at STOU for 3 - 4 years and had 1 - 2 years of experience in distance learning. Doctoral students had the greatest access to most of learning devices used in distance learning education. They had “*electricity*”, “*a radio*”, “*a compact disc player*”, “*an mp3 player*”, “*a television*”, “*a VCD player*”, “*a DVD player*”, “*a personal computer*”, “*the internet*”, and “*a smart phone or tablet*” for distance learning classes. Importance devices for doctoral students to have in distance learning education were “*electricity*”, “*a*

*personal computer*”, “*internet access*”, “*an e-mail address*”, “*a television*”, “*a smart phone or tablet*”, “*a VCD player*”, “*a DVD player*”, “*a satellite receiver*”, “*an mp3 player*”, “*a room for study*”, and “*a compact disc player*”. Doctoral students had average or above average skills in all distance learning skill areas.

Instructors were male and were either between 30 - 49 or 50 - 64 years of age. They held the rank of associate professor and had graduated with a doctoral degree. They had 23.70 years of work experience and 16.70 years of experience in distance learning. Instructors indicated importance devices for students to have in distance learning education were “*electricity*”, “*a personal computer*”, “*internet access*”, “*an e-mail address*”, “*a television*”, “*a smart phone or tablet*”, “*a DVD player*”, “*a VCD player*”, “*a satellite receiver*”, “*an mp3 player*”, and “*a compact disc player*”. Instructor had above average or excellent skills in all areas. Table 35 summarizes the typical socioeconomic characteristics of undergraduate students and graduate students.

The findings in this study indicated that most STOU students were employed adults who lived around Thailand. The primary difference between undergraduate students and Master’s students was gender and marital status. Students and instructors indicated that distance learning devices were important for distance learning education, and they had average and above average skill levels in all distance learning skill areas.

Table 35 Summary of Socioeconomic Characteristics of Students

Socioeconomic Characteristics	Undergraduate Students (n = 251)	Master's Students (n = 104)	Doctoral Students (n = 9)
1. Gender	Male	Female	Male
2. Age	30-49 years	30-49 years	30-49 years
3. Marital status	Married	Single	Married
4. Region	Central	Northeast	Northeast
5. Occupation	Employee	Extension agent	Officer
6. Working status	Private employee	Government Employee	Government Employee
7. Year of Work experience	0 – 10 years	0 – 10 years	11 – 30 years
8. Monthly income	12,001 – 15,000 baht	15,001 – 18,000 baht	Over 24,000 baht
9. Learning Expense per Semester	≤ 5,000 baht	25,001 – 30,000 baht	Over 40,000 baht
10. Years at STOU	3 – 4 years	1 – 2 years	3 – 4 years
11. Years in Distance Learning	3 – 4 years	1 – 2 years	1 – 2 years

Note: 32.88 baht = 1 US dollar

### Information about ASEAN Community

Undergraduate students had an average level of knowledge about the ASEAN community and Open University. They learned about the ASEAN community via “television programs”. They believed the most important factors affecting Thai agriculture would be about ASEAN Economic Community and ASEAN Socio-Cultural Community.

Master’s degree students had an above average level of knowledge about the ASEAN community and Open University. They learned about the ASEAN community via “television programs” and “websites”. Master’s degree students also believed that the most important factor affecting Thai agriculture when participating in ASEAN community was the ASEAN Economic Community.

Doctoral students had an above average of knowledge about the ASEAN community and Open University. They learned about the ASEAN community via “television programs” and “websites”.

Instructors reported that all factors of the ASEAN community affected STOU program. Instructors learned about the ASEAN community via “websites” and “educational institutes”.

### **Attitudes towards STOU Programs**

Undergraduate students had positive attitudes toward the Agricultural Extension Program. The factors when considering to study at STOU were important or very important. Delivery channels were appropriate or absolutely appropriate for the program. Undergraduate students were satisfied or very satisfied with all distance learning methods, and they agreed and strongly agreed with the program curriculum. Undergraduate student applicant qualifications were appropriate or absolutely appropriate, and program objectives and program structures were absolutely appropriate for the program when participating in the ASEAN community.

Master’s degree students had positive attitudes toward the Agricultural Extension and Development Program. The factors when considering to study at the STOU were very important. Delivery channels were appropriate or absolutely appropriate for the program. Master’s degree students were satisfied or very satisfied with distance learning methods. They agreed and strongly agreed with program curriculum. Master’s degree student applicant qualifications were appropriate or absolutely appropriate, program objectives and program structures were absolutely appropriate for the program when participating in the ASEAN community.

Master’s degree students studied at STOU because “*STOU is a famous educational institute*” and “*family and chiefs supports*”. While textbooks were useful,

they were shipped too late. E-Learning and face-to-face Tutorials were appropriate delivery channels for distance learning.

Doctoral degree students had positive attitudes toward the Agricultural Extension and Development Program. The factors when considering to study at the STOU were very important. Delivery channels were appropriate or absolutely appropriate for the program. Doctoral students were satisfied or very satisfied with distance learning methods. They agreed and strongly agreed with program curriculum. Doctoral degree student applicant qualifications and program objectives were absolutely appropriate. Program structures were appropriate or absolutely appropriate for the program when participating in the ASEAN community.

Instructors had positive toward all STOU degree programs. The factors when students considering to study at the STOU were very important. STOU delivery channels were appropriate or absolutely appropriate for the program. Instructors were satisfied or very satisfied with distance learning methods. They agreed and strongly agreed with all program curriculums. Instructors indicated that applicant qualifications and programs objectives for the degree programs were absolutely appropriate. Programs structures were appropriate or absolutely appropriate for the programs when participating in the ASEAN community.

### **Attitudes towards the STOU Distance Learning System**

Undergraduate students had positive attitudes toward STOU learning systems. STOU learning systems and educational services were adequate or more than adequate for the program when participating in the ASEAN community. Undergraduate students agreed that learning supports are very important for the STOU students, such as



Educational Regional Centers, student activities, library, Examination Centers, and student information supports.

Master's degree students had positive attitudes toward STOU learning systems when participating in the ASEAN community. STOU learning systems were adequate or more than adequate. Educational services were adequate or more than adequate for the program. Master's degree students believed that current distance learning systems were appropriate. Master's degree students agreed that learning supports are very important for the STOU students, and STOU should improve the Educational Regional Centers and library.

Doctoral students had positive attitudes toward STOU learning systems. For doctoral students, STOU learning systems and educational services were adequate or more than adequate for the program when participating in the ASEAN community.

Instructors had neutral attitudes toward the STOU learning systems when participating in the ASEAN community. Instructors believed that STOU learning systems were uncertain or adequate for the programs. Educational services were also uncertain or adequate for the programs. They believed that “*STOU Corners in all provincial libraries*”, “*Special Study Centers*”, and “*practical experience activities*” were inadequate for the programs when participating in the ASEAN community.

### **Difference between the Attitudes of Graduate Students and Undergraduate Students**

Undergraduate and graduate students (Master's degree students and doctoral students) had positive attitudes toward factors of distance learning systems and Agricultural Extension and Development programs. Undergraduate and graduate students

had different attitudes toward “*applicant qualifications when students apply for the STOU programs*”. Undergraduate students stated that applicant qualifications for the program were appropriate, but graduate students stated that applicant qualifications were absolutely appropriate. Both undergraduate students and graduate students indicated “*program objectives for the STOU programs*” and “*appropriateness of program structures*” were absolutely appropriate, and “*adequacy of the STOU learning system*” and “*adequacy of education service for STOU programs*” were adequate. When analyzing the comparison of students’ attitude via the Mann-Whitney test statistics, undergraduate and graduate students had different attitudes (Table 36).

Table 36 Summary of Attitudes of Undergraduate Students and Graduate Students Toward Factors of Distance Learning Systems and Agricultural Extension and Development Programs

Students’ Attitude toward	Undergraduate Student (n = 251)	Graduate Student (n = 113)
1. Appropriateness of Distance Learning Channels	Appropriate	Appropriate
2. Satisfaction of Distance Learning Methods used in STOU Programs	Satisfied	Satisfied
3. Distance Learning Curriculum Agreement	Strong Agree	Strong Agree
4. Factors when Considering to Study in the STOU Programs	Very Important	Very Important
5. Applicant Qualifications when Students Apply for the STOU Programs	Appropriate	Absolutely Appropriate
6. Program Objectives for the STOU Programs	Absolutely Appropriate	Absolutely Appropriate
7. Appropriateness of Program Structures	Absolutely Appropriate	Absolutely Appropriate
8. Adequacy of the STOU Learning System	Adequate	Adequate
9. Adequacy of Education Service for STOU Programs	Adequate	Adequate

## Discussion

The findings in this study showed that most STOU students were employed adults (age between 30 – 49 years old) who lived around Thailand. This was similar to the finding of Sungkatavat (2009) that STOU students have various demographic characteristics. “STOU is open to all occupational groups such as workers, housewives, monks, the disabled, members of hill tribes and secondary school graduates. Those who have completed only lower secondary school but have five years of work experience could also apply” (p.35).

The primary difference between undergraduate students and Master’s students was gender and marital status. Most undergraduate students were male and married, which was different from the finding of Seubsman, Yiengprugsawan, and Sleigh (2012) that found most STOU undergraduate students were female and single. Most Master’s students were female and single, which similar to Sanserm (2010, p. 85) who asserted that most STOU Master’s degree students were female and single.

The findings about distance learning devices in this study indicated that distance learning devices were important for distance learning education. The digital technology (the internet and computer networking) was a very important technology for distance learning education. These findings are related to Picciano (2001) who asserted that computer or digital technology was an interactive distance learning technology. Students can study by themselves (self-paced), and graphics can be used to present via this technology. However, the use computer or digital technology is complex, expensive, and takes more time for instruction developing.

The findings about distance learning technology skills in this study stated that students and instructors had above average skill levels with internet system, computer devices, social network, video devices, audio devices, electronic mail, and word processing program. In contrast, English skills and satellite devices were the lowest distance learning technology skills identified. These findings confirm the findings of Yaghoubi and Malekmohammadi (2002) that stated that IT skills was highly ranked in requirements for students entering into e-Learning in higher agricultural extension and education.

The findings about ASEAN community and Open University indicated that students had different knowledge levels. Graduate students had an above average level of knowledge, but undergraduate students had an average level of knowledge. There were different knowledge levels between undergraduate students and graduate students because STOU provided information of the ASEAN community in the graduate programs. These findings confirm adult learning concepts that Zemke and Zemke (1984) asserted the main concepts are about adults' experiences and curriculum design for adult learning. The ASEAN community information were provided in graduate students' classes and related to graduate students' work (agricultural extension agents).

When analyzing the mean scores on the statements about the STOU programs, students and instructors had positive attitudes towards the STOU agricultural extension and development programs. Program objectives, program structures, factors about considering to study in the STOU programs, and program curriculum were rated the highest scores respectively. In addition, students and instructors indicated that the internet was a very appropriate for delivery channel, and textbooks and workbooks were the

preferred distance learning method. These findings were similar with STOU (2012) that asserted textbooks written by STOU faculty members and outside experts, specially designed for self-guided study, and corresponding self-evaluating workbooks were the primary media for instruction in each course, and e-Learning and e-Training via the internet were the selected distance learning methods for undergraduate and graduate programs.

The findings about attitudes toward the STOU distance learning system, students and instructors reported positive attitudes towards the STOU distance learning system for the STOU Agricultural Extension program and Agricultural Extension and Development program. The results in this study were similar to many researches in many countries asserted that students had positive attitude toward distance learning systems, such as Hong, Lai, and Holton (2003), Almobarraz and Farag (2009), Al-Zaidiyeen, Mei, and Fook (2010), Mohammadi, Hosseini, and Fami (2011), Meena, Singh, Meena, and Kanwat (2012), Al-Shboul (2014), Miller and Honeyman (1993), Motiwalla and Tello (2000), Diaz (2000), Johnson, Aragon, and Shaik (2000), Dunbar (2004), and Charron and Koo (2007).

There were different attitudes between students and instructors about the STOU learning system and the STOU educational services, which was a surprise to the researcher. Most students rated the STOU learning system and STOU educational services as adequate, but most instructors rated it uncertain. Instructors rated almost all factors of the STOU learning system as uncertain. E-Tutorial was the only factor that they rated adequate. For STOU student services, instructors believed that “*Practical Experience Programs*”, “*Special Study Centers*”, and “*STOU Corners*” were inadequate.

These findings indicated that the instructors thought that STOU was not ready for participating in the ASEAN community. STOU should improve distance learning systems and educational services for participating in the ASEAN community.

### **Recommendations**

The recommendations based on the finding of this study are presented into 3 sections: (1) STOU programs and distance learning system development via Balanced Scorecard, (2) the model of distance education of Open University for agricultural extension programs when participating in ASEAN community, and (3) further studies.

#### **Balanced Scorecard**

The Balanced Scorecard is a strategic planning and management system that is used extensively in business and industry, government, and nonprofit organizations. The Balanced Scorecard provides executives with a comprehensive framework that translates an organization's vision and strategy into a coherent set of performance measure. The Balanced Scorecard suggests viewing the organization from four perspectives: customer perspective, financial perspective, internal process perspective, and learning and growth perspective (Kaplan & Norton, 1996).

According to the results from this study and the current vision of STOU *“Sukhothai Thammathirat Open University aims to be a world-class open university utilizing a distance education system to provide lifelong learning for all”*, the vision for STOU agricultural extension programs should be *“To be a famous and popular programs utilizing a distance education system to provide agricultural extension knowledge for*

*Thai and international students*". The recommendations are applied through the 4 perspectives of Balanced Scorecard as illustrated in Figure 21.

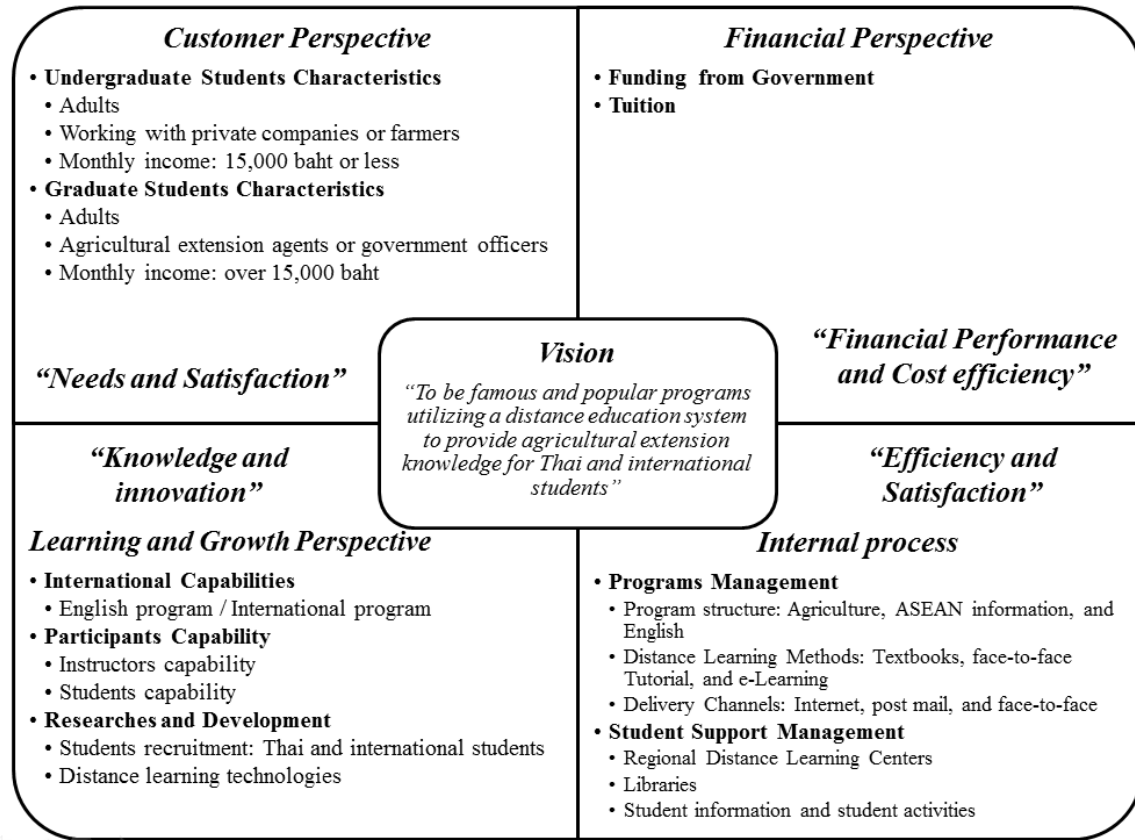


Figure 21 The 4 Perspectives of Balanced Scorecard for STOU Program Improvement

**1. Customer Perspective.** Customers in this study mean students who are studying in the agricultural extension programs. STOU should have recruitment and retaining plan. The findings from this study indicate that STOU students are working adults categorized into 2 groups: undergraduate students and graduate students. The differences of the 2 groups are working status and monthly income. Most undergraduate

students are employee at private companies or farmers with lower monthly income, but most graduate students are agricultural extension agents or government officers with higher monthly income. Understanding the target groups is necessary for planning, and the findings in this study should be used as information for STOU recruitment and retaining plan. Student needs and satisfaction assessment should be used to evaluate the student perspectives.

**2. Financial perspective.** This study did not concentrate on the financial perspective. However, the findings in this study indicated that “*the program is affordable*”. This is a very important factor that motivated students to study in the STOU programs. In addition, students and instructors in the study stated that “*the cost of STOU program is reasonable to students’ benefits*”. Thus, financing is an important factor for program improvement. STOU is an Open University belonging to the Thai government that receives an annual budget from the government. STOU also collect student tuition. Thus, STOU should have a financial plan for program and distance learning system improvement. Financial performance and cost efficiency should be used to evaluate the financial perspectives.

**3. Internal process.** The important processes for STOU are program management and distance learning supports management. The results from this study indicate that students and instructors are positive toward the STOU programs, the distance learning system, and the student supports. These results imply these are strengths of the programs. Thus, the internal process should be divided into 2 management processes. The first should be about “*programs management*”. This process includes with (1) program structures that should improve contents about agriculture, ASEAN information, and



English, (2) appropriate distance learning methods from this study: textbooks, face-to-face tutorial, and e-Learning, and (3) delivery channels such as the internet, post mail, and face-to-face. The second process is “*student support management*”. This process should include Regional Distance Learning Centers, STOU libraries, student information system, and student activities. Efficiency and satisfaction evaluation should be used to evaluate the internal process.

**4. Learning and growth perspective.** The findings from this study indicate that English and ASEAN language are important for program when participating in the ASEAN community. In addition, STOU should provide international programs for students in ASEAN countries. However, instructors indicated that the student support systems were not adequate for the programs when participating in the ASEAN community. Thus, the researcher recommends that STOU should conduct research about international capability, instructor capability, and student capability before conducting the international programs. In addition, research and development (R&D) should be used to examine student recruitment, such as Thai and international students, and study about distance learning technologies for students in the next generation.

### **The AMEI Model**

This model is a presentation of a system that allows for investigation of the properties of the system and prediction of future outcomes. In this sector, I would like to present “*the model of distance education of Open University for agricultural extension programs when participating in the ASEAN community*”.

According to a model for planning for distance learning (Picciano, 2001), a model for e-Learning in higher agricultural extension and education in Iran (Yaghoubi &

Malekmohammadi, 2008), and the catalytically assisted reaction model (Simpson, 2000), their concepts are applied through the model as illustrated in Figure 22.

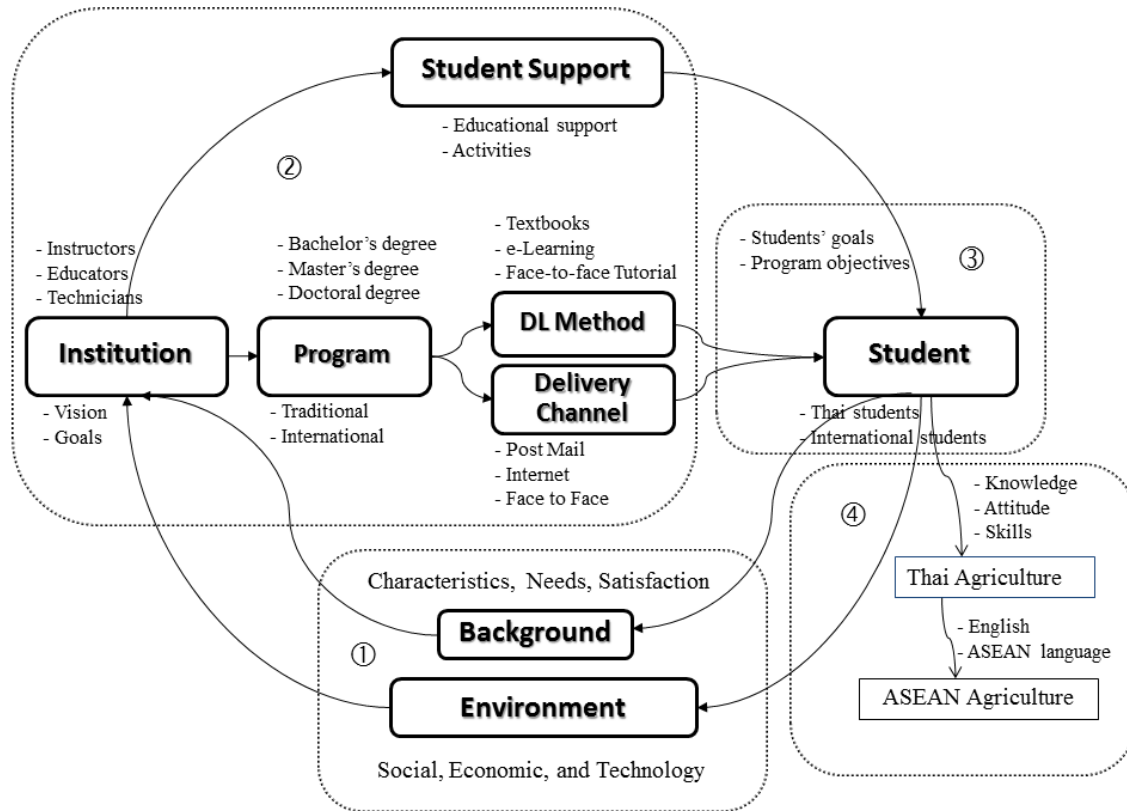


Figure 22 The Model of Distance Education of Open University for Agricultural Extension Programs when Participating in the ASEAN Community

The model includes 4 stages (A-M-E-I): analysis, management, evaluation, and improvement and extension, with 8 factors (BE-IPMCS-S): student's background, learning environment, educational institute, programs, distance learning method, delivery channel, student support, and student.

**Stage 1: Analysis.** This stage includes of 2 factors that are important information for distance learning education: students' background and environment.

Factor 1: *Background*. The first factor in the model is the student's background. Distance education students are adults who have experience and specific purposes for their study. Students need satisfaction and their backgrounds are important information for distance learning education that focus on students. The backgrounds of students are their socioeconomic status such as age, gender, region, occupation, marriage status, income, experience, and technology skills. This factor is important for institutions and instructors to design appropriate distance learning programs for students.

Factor 2: *Environment*. The second factor is the environment. According to the findings in this study, students and instructors responded that social, economic, and technology factors were important factors when participating in the ASEAN community. This means that the environmental factors include social environment, economic environment, and technological environment.

**Stage 2: Management:** The management stage includes educational institutions, programs, distance learning methods, delivery channels, and student support.

Factor 3: *Institution*. The third factor is educational institutions. The main components in this factor are the institution's vision and goals. STOU vision is "*Sukhothai Thammathirat Open University aims to be a world-class open university utilizing a distance education system to provide lifelong learning for all*" (STOU, 2014). This means that STOU wants to be an Open University that uses distance learning systems to support higher education to everyone. Other compositions in institute factors are instructors, educators, and technicians. These are very effective composites to manage in distance education for students.

Factor 4: *Program*. The fourth factor is programs. Based on the results, STOU should provide three educational levels: Bachelor's degree, Master's degree, and doctoral degree in 2 programs: traditional program and international program. The traditional program should be a program for their students who live in its country. The program should concentrate on its agricultural information to develop its country. The international program should be an English program for international students who want to learn about international agricultural information. This program would improve agriculture in ASEAN countries.

Factor 5: *Method*. The fifth factor is distance learning methods. Based on the conclusions of the study, appropriate distance learning methods should include textbooks, e-Learning, and face-to-face Tutorials. The main teaching materials for Open University should be textbooks written by faculty members and outside experts. The textbooks would be useful for students to apply to their works. In addition, e-Learning and face-to-face Tutorial sessions are necessary for students to ask questions and learn new information that not include in the textbooks.

Factor 6: *Channel*. The sixth factor is delivery channels. The distance-learning delivery channels are based on technology. Based on the factor 5, textbooks, e-Learning, and face-to-face Tutorials are appropriate distance learning methods. Thus, the appropriate delivery channels for these methods should be post mail (textbooks), the internet (e-Learning), and face-to-face (face-to-face Tutorials).

Factor 7: *Student support*. The seventh factor is student support. Based on the findings of study and Simpson (2000), the student support should include (1) educational support, such as region distance learning centers, study centers, libraries, information

centers, and examination centers, and (2) student activities, such as seminars and field trips.

**Stage 3: Evaluation:** Evaluation is an essential tool for making development programs successful. Based on this study, the findings from students are useful factors for program improvement. Thus, the evaluation stage should focus on students.

Factor 8: *Student*. The last factor is students. Students are the center of a distance learning system. According to the findings in this study and Rossi et al., (2004), students' goals and program objectives should be indicators for program evaluation. The evaluation stage should include 5 domains.

1. Students' needs assessment – to indicate the characteristic of students that are the target for the program.
2. Assessment of program theory – to indicate the appropriateness of programs and the adequacy of educational services for students.
3. Assessment of program process - to indicate the satisfaction of service delivery.
4. Impact assessment – to indicate the usefulness of the programs (outcomes).
5. Efficiency assessment – to compare program cost with students' attitude and outcomes.

**Stage 4: Improvement and Extension:** After program evaluation, the results from program evaluation will be used as data or information for stage 1 analysis.

However, the outcomes of distance education should improve students' knowledge, attitude, and skills (short-term outcomes), and extend to Thai agriculture - agriculture

improvement (medium-term outcomes) and ASEAN countries - ASEAN agriculture development (long-term outcomes).

### **Recommendations for Further Research**

The following are recommendations for the further research that based on the conclusions of this study:

1. A study should be conducted to determine the attitudes of dropout students toward the distance learning programs in an Open University.
2. Data should be collected about qualifications of distance learning instructors and appropriate student supports for distance learning programs when participating in the ASEAN community. This data will help administrators manage qualified faculty and support activities for completing distance learning programs.
3. A study should be conducted to examine appropriate technologies for ASEAN distance learning education when participating in the ASEAN community.
4. Further research should be conducted separately on each of the three programs, Bachelor's degree program, Master's degree program, and doctoral degree program to determine if students acquire more knowledge and specific skills in each degree.
5. Studies should be conducted to collect data about programs cost to examine financial performance and cost efficiency of degree programs.

6. Other studies should be conducted at other Open Universities in Thailand to determine if those students have positive attitude toward distance learning system at those universities.

These researches will fulfill the knowledge about distance learning systems and the agricultural extension programs in Thailand and ASEAN countries.

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## APPENDIX A

IRB E-MAIL & INFORMED CONSENT DOCUMENT IN ENGLISH AND THAI

**From:** [kmyhand@orc.msstate.edu](mailto:kmyhand@orc.msstate.edu) [mailto:[kmyhand@orc.msstate.edu](mailto:kmyhand@orc.msstate.edu)]

**Sent:** Tuesday, February 03, 2015 12:01 PM

**To:** [ct788@msstate.edu](mailto:ct788@msstate.edu)

**Cc:** Myhand, Katie; Myhand, Katie; Swortzel, Kirk

**Subject:** Study 15-017: ATTITUDE OF THAI INSTRUCTORS AND STUDENTS TOWARD A DISTANCE LEARNING SYSTEM FOR AGRICULTURAL EXTENSION PROGRAM FOR PARTICIPATING IN THE ASEAN COMMUNITY

Protocol Title: ATTITUDE OF THAI INSTRUCTORS AND STUDENTS TOWARD A DISTANCE LEARNING SYSTEM FOR AGRICULTURAL EXTENSION PROGRAM FOR PARTICIPATING IN THE ASEAN COMMUNITY

Protocol Number: 15-017

Principal Investigator: Mr. Chalernsak Toomhirun

Date of Determination: 2/3/2015

Qualifying Exempt Category: 45 CFR 46.101(b)(2)

Attachments: 15-017 - Approved IC (in follow up email)

Dear Mr. Toomhirun:

The Human Research Protection Program has determined the above referenced project exempt from IRB review.

Please note the following:

- Retain a copy of this correspondence for your records.
- An approval stamp is required on all informed consents. You must use the stamped consent form wording for obtaining consent from participants.
- Only the MSU staff and students named on the application are approved as MSU investigators and/or key personnel for this study.
- Your approved study will expire on 05/15/2015, which was the completion date indicated on your application. If additional time is needed, please contact our office. (SOP 01-03 Administrative Review of Applications)
- Any modifications to the project must be reviewed and approved by the HRPP prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project.
- Per university requirement, all research-related records (e.g. application materials, letters of support, signed consent forms, etc.) must be retained and available for audit for a period of at least 3 years after the research has ended.
- It is the responsibility of the investigator to promptly report events that may represent unanticipated problems involving risks to subjects or others.

This determination is issued under the Mississippi State University's OHRP Federalwide Assurance #FWA00000203. All forms and procedures can be found on the HRPP website: [www.orc.msstate.edu](http://www.orc.msstate.edu).

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact me at [kmyhand@orc.msstate.edu](mailto:kmyhand@orc.msstate.edu) or call 662-325-3294.

Finally, we would greatly appreciate your feedback on the HRPP approval process. Please take a few minutes to complete our survey at <https://www.surveymonkey.com/s/PPM2FBP>.

Sincerely,  
Katie Myhand  
Assistant Compliance Administrator

cc: Kirk A. Swortzel (Advisor)



## STUDENT INFORMED CONSENT FORM

**You are invited to participate in a research study conducted by Chalernsak Toomhirun, Doctoral Student at the Mississippi State University. As a participant, you should read and understand the following statements. Ask any questions before you agree to participate.**

**1. Goal of the Project:** The purpose of this study is to determine the attitudes of instructors and students in the Thai Open University toward the distance learning system for the Agricultural Extension program.

**2. Participation Procedure and Guidelines:**

- You may ask questions before completing the questionnaire.
- To ensure confidentiality, your name will not appear on the questionnaire, making it impossible to identify your responses.
- It will take about 25 minutes to complete the questionnaire.
- If selected to participate in the focus group, you can expect the focus group to last approximately 45 minutes.

**3. Participation Benefits and Risks:**

- Your participation in this study does not involve risks that are greater than those you experience in your daily life. You might feel some mild discomfort from reading and responding to some items on the questionnaires. But again, the risk of discomfort is not greater than you might have in class or in other normal activities.
- You also might experience some benefits from participating in this project. These benefits might be positive feelings from helping with an important research study.

**4. Rights to Refuse or Withdraw:** Your participation is VOLUNTARY, and there is no penalty for you not wanting to participate. This means that you are free to stop at any point or to choose not to answer any particular question.

**5. Rights as a Participant:** You have a right to have any questions about this research project answered. Please direct any questions to the following individuals:

Chalernsak Toomhirun, Doctoral Student  
Mississippi State University  
214 Lloyd Ricks Watson, Mississippi State, MS 39762  
Email: [ct788@msstate.edu](mailto:ct788@msstate.edu)

Kirk A. Swortzel, Ph.D., Professor, School of Human Sciences  
Mississippi State University  
214 Lloyd-Ricks Watson, Mississippi State, MS 39762  
Email: [kswortzel@humansci.msstate.edu](mailto:kswortzel@humansci.msstate.edu)

**6. Agreement to Participate:**

Signature \_\_\_\_\_ Date \_\_\_\_\_

	Approved:	Expires:
	Feb 3, 2015	May 15, 2015
*3# 15-017		

## หนังสือแสดงเจตนายินยอมเข้าร่วมการวิจัย

ท่านได้รับการเชิญเข้าร่วมในการศึกษาวิจัยที่ดำเนินการโดยนายเฉลิมศักดิ์ ตุ่มหิรัญ นักศึกษาระดับปริญญาเอก ของMississippi State University ประเทศสหรัฐอเมริกา ในการเข้าร่วมการศึกษาวิจัยครั้งนี้ ท่านควรอ่านและเข้าใจในข้อความตามปรากฏด้านล่างนี้ หากมีข้อสงสัยประการใดท่านสามารถสอบถามได้ก่อนที่จะตกลงเข้าร่วมในการศึกษาวิจัยนี้

1. เป้าหมายของโครงการ: ในการศึกษาวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาทัศนคติของผู้สอนและนักศึกษาในมหาวิทยาลัยเปิดของไทย ที่มีต่อระบบการศึกษาทางไกลสำหรับหลักสูตรส่งเสริมและพัฒนากาณิช

2. วิธีการและแนวทางการเข้าร่วมศึกษาวิจัย:

ก. ท่านสามารถสอบถามข้อสงสัยได้ก่อนที่จะตอบแบบสอบถาม

ข. เพื่อให้มั่นใจในการรักษาความลับ ชื่อของท่านจะไม่ปรากฏในแบบสอบถาม และไม่สามารถระบุถึงตัวของท่านในการตอบแบบคำถามได้

ค. การตอบแบบสอบถามจะใช้เวลาประมาณ 25 นาที

ง. ในกรณีที่ท่านได้รับการสุ่มเลือกเข้าร่วมในการสนทนากลุ่ม การสนทนากลุ่มจะใช้เวลาทั้งสิ้นประมาณ 45 นาที

3. ผลประโยชน์และความเสี่ยงหรืออันตรายในการเข้าร่วมศึกษาวิจัย

ก. การเข้าร่วมในการศึกษาวิจัยครั้งนี้จะไม่มีความเสี่ยงหรืออันตรายใดๆ ที่มากกว่าการปฏิบัติตามปกติประจำวันของท่าน ท่านอาจจะรู้สึกไม่สะดวกเล็กน้อยในการอ่านและตอบคำถามแต่ละประเด็นในแบบสอบถาม อย่างไรก็ตาม ใดๆก็ตามความเสี่ยงหรืออันตรายจากความรู้สึกไม่สะดวกนี้ไม่ได้มากกว่าการที่ท่านได้เรียนในชั้นเรียนหรือกิจกรรมตามปกติอื่นๆ

ข. ท่านจะได้รับประสบการณ์ที่เป็นประโยชน์จากการเข้าร่วมในการศึกษาวิจัยครั้งนี้ และประโยชน์จากการเข้าร่วมศึกษาวิจัยนี้จะ เป็นความรู้สึกที่ดีที่มีส่วนช่วยเหลือที่สำคัญในการศึกษาวิจัย

4. สิทธิในการปฏิเสธหรือถอนตัวจากการเข้าร่วมศึกษาวิจัย: การมีส่วนร่วมในการศึกษาวิจัยของท่านเป็นไปโดยสมัครใจ โดยไม่มีการลงโทษสำหรับการไม่เข้าร่วมแต่ประการใด โดยหมายถึงว่าท่านมีอิสระที่จะหยุดหรือเลือกที่จะไม่ตอบคำถามใดๆ ก็ได้

5. สิทธิในการเข้าร่วมศึกษาวิจัย: ท่านมีสิทธิที่จะถามคำถามใดๆ ที่เกี่ยวกับโครงการวิจัยได้ โดยโปรดสอบถามโดยตรงได้ตามชื่อที่อยู่:

1. นายเฉลิมศักดิ์ ตุ่มหิรัญ

Mississippi State University

214 Lloyd Ricks Watson, Mississippi State, MS 39762

Email: ct788@msstate.edu

2. Professor Dr. Kirk A. Swortzel, Ph.D.

ศาสตราจารย์ ประจำสาขาวิชา Human Sciences Mississippi State University

214 Lloyd-Ricks Watson, Mississippi State, MS 39762

Email: kswortzel@humansci.msstate.edu

6. การยินยอมเข้าร่วมในการศึกษาวิจัย:

ลงนาม \_\_\_\_\_ วันที่ \_\_\_\_\_

	Approved:	Expires:
	Feb 3, 2015	May 15, 2015
	*3#	15-017

APPENDIX B  
QUESTIONNAIRE FOR UNDERGRADUATE STUDENTS

No. ....



**Research Questionnaire**  
**“STOU Undergraduate Students”**



“ATTITUDE OF THAI INSTRUCTORS AND STUDENTS TOWARD A DISTANCE LEARNING SYSTEM FOR AGRICULTURAL EXTENSION PROGRAM FOR PARTICIPATING IN THE ASEAN COMMUNITY”

**Instruction:**

The purpose of the study is to examine the attitude of Thai instructors and students toward a distance learning system for the Agricultural Extension program for participating in the ASEAN Community. This questionnaire will ask about your personal beliefs of the STOU distance learning system, the STOU Agricultural Extension program, and your knowledge about the ASEAN Community.

There are five sections in this questionnaire. The first section is about socioeconomic characteristics of participants. The second section is about the ASEAN Community. The third section asks participants about their attitude toward the STOU Agricultural Extension program. The fourth section asks participants about their attitude toward the STOU distance learning system. Finally, the fifth section consists of some open– ended questions for participants to suggest ways to improve the program and the distance learning system.

Do not write your name on this questionnaire. Your responses will be anonymous and will never be linked to you personally. Your participation is entirely voluntary. If there are items you do not feel comfortable answering, please skip them. Thank you for your participation.

Chalernsak Toomhirun

Graduate Student, Mississippi State University

**Section 1:** The next section is for demographic purpose. Please answer to the best of your knowledge by circling the appropriate answer beneath each question.

- 1.1. What is your gender?  
 (1) Male (2) Female
- 1.2. What is your current age as of January 1?  
 (1) Under 18 years old (2) 18-29 years old (3) 30 to 49 years old  
 (4) 50 to 64 years old (5) Over 65 years old
- 1.3. What region do you currently live?  
 (1) North (2) Northeast (3) Central region  
 (4) East (5) West (6) South  
 (7) Bangkok and Vicinities (8) Other (please specify).....
- 1.4. What is your current occupation?  
 (1) Agricultural Extension Agent (2) Agriculturist  
 (3) Government officer in other position (4) Service worker / Employee  
 (5) Trader (6) Non occupation  
 (7) Other (please specify).....
- 1.5. What is your current work status?  
 (1) Employer (2) Government employee (3) Private employee  
 (4) Own account worker (5) Unpaid family worker (6) Members of producers' cooperatives  
 (7) Other (please specify).....
- 1.6 How many years of total work experience do you have? ..... years.
- 1.7 What is your current marital status?  
 (1) Single (never married) (2) Married (3) Divorced/widowed  
 (4) I choose not to answer this question
- 1.8 What is your current monthly income? (baht/month) (Note: \$1 = 32.82 baht)  
 (1) Less than 3,000 (2) 3,001-6,000 (3) 6,001-9,000  
 (4) 9,001-12,000 (5) 12,001-15,000 (6) 15,001-18,000  
 (7) 18,000-21,000 (8) 21,001-24,000 (9) Over 24,000
- 1.9 How much are your current learning expenses at STOU? (baht/ semester)  
 (1) Less than 5,000 (2) 5,001 - 10,000 (3) 10,001 - 15,000  
 (4) 15,001 - 20,000 (5) 20,001 - 25,000 (6) 25,001 - 30,000  
 (7) 30,001 - 35,000 (8) 35,001 - 40,000 (9) Over 40,000
- 1.10 Please order your learning expenses from greatest expense (1) to least expense (7).  
 ( ) Tuition  
 ( ) Traveling  
 ( ) Accommodation  
 ( ) School supply  
 ( ) Text book  
 ( ) Communication  
 ( ) Other (please specify).....
- 1.11 How many years have you been a student at STOU? .....years.
- 1.12 How many years of experience do you have in distance learning? ..... years.

1.13 Please indicate if you have the following devices available for distance learning and rate how important each device is for distance learning.

(1 = Very Unimportant, 2 = Unimportant, 3 = Neither Important or Unimportant, 4 = Important, and 5 = Very Important)

Devices	Have or not?		Importance for learning				
	Yes	No	VU	U	N	I	VI
Electricity	yes	no	1	2	3	4	5
Radio	yes	no	1	2	3	4	5
Cassette player	yes	no	1	2	3	4	5
Compact disc player	yes	no	1	2	3	4	5
Mp3 player	yes	no	1	2	3	4	5
Television	yes	no	1	2	3	4	5
Video tape player	yes	no	1	2	3	4	5
VCD player	yes	no	1	2	3	4	5
DVD player	yes	no	1	2	3	4	5
Personal Computer	yes	no	1	2	3	4	5
Internet access	yes	no	1	2	3	4	5
Satellite receiver	yes	no	1	2	3	4	5
Smart phone or tablet	yes	no	1	2	3	4	5
A room for study	yes	no	1	2	3	4	5
e-mail address	yes	no	1	2	3	4	5

1.14 Please rate your personal skill level on using the following technologies for distance learning.

(1 = Poor, 2 = Below Average, 3 = Average, 4 = Above Average, and 5 = Excellent)

Technologies	Personal skill				
	P	BA	A	AA	E
Audio devices	1	2	3	4	5
Video devices	1	2	3	4	5
Satellite devices	1	2	3	4	5
Computer devices	1	2	3	4	5
Internet system	1	2	3	4	5
Electronic mail	1	2	3	4	5
Social network	1	2	3	4	5
Word processing program	1	2	3	4	5
Presentation program	1	2	3	4	5
English skill	1	2	3	4	5

**Section 2:** The section is to determine your knowledge about the ASEAN community.

2.1 Please answer TRUE or FALSE to the following questions about your fundamental knowledge of the ASEAN Community.

Questions	True	False
1. ASEAN was founded on August 8, 1967 in Thailand.	T	F
2. There are 11 countries that belong to ASEAN today.	T	F
3. The working language of ASEAN shall be English.	T	F
4. ASEAN was established to accelerate economic growth, promote regional peace and stability, and enhance cooperation on economic, social, cultural, technical, and educational matters among Southeast Asian countries.	T	F
5. The ASEAN Community is comprised of two pillars, namely the ASEAN Political-Security Community (APSC) and the ASEAN Economic Community (AEC).	T	F
6. A single market and production base is one of the goals of the AEC.	T	F
7. Strengthening ASEAN University Networking is one of four priorities of the AEC.	T	F
8. The AEC will transform ASEAN into a region with free movement of goods, services, investment, skilled labor, and freer flow of capital.	T	F
9. The benefit of Thailand after AEC- joining is agricultural product such as rubber, coconut, coffee, and palm.	T	F
10. If ASEAN were a single entity, it would rank as the ninth largest economy in the world.	T	F
11. Every ASEAN Country has Open University.	T	F
12. Life-long education is a principle of Open University	T	F
13. Agriculture Programs are provided by every open university in ASEAN.	T	F
14. ASEAN Study Program is provided by Open University in Indonesia.	T	F
15. ASEAN Study Program is the cooperative program among Open University in ASEAN.	T	F

2.2 Please choose the sources of information where you learned about ASEAN. (You can choose more than one).

- Neighborhood       Community Leader       Government officer  
 Educational institute       Newspaper       Printed material  
 Radio broadcasting       Television       Website  
 Other, please specify.....

**Section 3:** The next section is about your attitude toward the STOU Agricultural Extension program.

3.1 How important are the following factors when considering to study in the STOU Agricultural Extension program?

(1= Very Unimportant, 2= Unimportant, 3= Neither Important or Unimportant, 4 = Important, and 5 = Very Important)

Factors	Important Factors				
	VU	U	N	I	VI
I want to upgrade my educational qualifications.	1	2	3	4	5
I can study without taking time out from working.	1	2	3	4	5
I can study in other educational institutions at the same time.	1	2	3	4	5
The program is useful for my job.	1	2	3	4	5
The program is affordable.	1	2	3	4	5

## 3.2 How appropriate are the delivery channels for the STOU Agricultural Extension program?

(1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Delivery Channels	Appropriate Channel				
	AI	I	N	A	AA
Post mail	1	2	3	4	5
Internet	1	2	3	4	5
Radio broadcasting	1	2	3	4	5
Television broadcasting	1	2	3	4	5
Satellite	1	2	3	4	5
Face to face	1	2	3	4	5

## 3.3 How satisfied are you with the distance learning methods used in the STOU Agricultural Extension program? (1 = Very Dissatisfied, 2 = Dissatisfied, 3 = Unsure, 4 = Satisfied, and 5 = Very Satisfied)

Distance Learning Methods	Satisfied Method				
	VD	D	U	S	VS
Textbooks and workbooks	1	2	3	4	5
Radio programs	1	2	3	4	5
Television programs	1	2	3	4	5
Media on demand	1	2	3	4	5
Multimedia	1	2	3	4	5
E-Learning and E-Training	1	2	3	4	5
E-tutorials	1	2	3	4	5
Face-to-face tutorials	1	2	3	4	5

## 3.4 Please indicate your level of agreement with the curriculum for the STOU Agricultural Extension program. (1 = Strong Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, and 5 = Strong Agree)

Program's curriculum	Agreement with the curriculum				
	SD	D	N	A	SA
The instructional methodology is appropriate for the Curriculum.	1	2	3	4	5
The instructional material is current.	1	2	3	4	5
The instructions are clearly written and easy to understand.	1	2	3	4	5
There are adequate examinations to ascertain student progress.	1	2	3	4	5
The examinations are comprehensive.	1	2	3	4	5
The tutorial supports assist students in achieving the competence.	1	2	3	4	5
There are adequate materials to support learning via the library's services.	1	2	3	4	5
The Information Call Center support useful information for your learning.	1	2	3	4	5
You achieve your personal goals with the program.	1	2	3	4	5
The cost of STOU Agricultural Extension and Development program is reasonable to your benefits.	1	2	3	4	5



3.5 How appropriate are the applicant qualifications when applying for the STOU Agricultural Extension program when participating in ASEAN Community?

(1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Applicant Qualifications	Appropriate Qualification				
	AI	I	N	A	AA
Applicants must have completed lower secondary school or its equivalent, and have at least five years' subsequent work experience at the beginning of the academic semester in which they enroll.	1	2	3	4	5
Applicants must have completed lower secondary school or its equivalent, and be at least twenty five years of age at the beginning of the academic semester in which they enroll.	1	2	3	4	5
Applicants must have completed lower secondary school or its equivalent, and received a training certificate as approved by the university.	1	2	3	4	5
Applicants must have completed upper secondary school or its equivalent.	1	2	3	4	5
Applicants must have completed a technical vocational certificate or its equivalent in agriculture or in any related fields.	1	2	3	4	5
Applicants must have completed a higher vocational certificate or diploma or its equivalent in agriculture or in any related fields.	1	2	3	4	5

3.6 How appropriate are the program objectives for the STOU Agricultural Extension program when participating in ASEAN Community? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Objectives	Appropriate Objective				
	AI	I	N	A	AA
To fulfill academic knowledge in agricultural extension for personal in government and private organization, farmers, and general public.	1	2	3	4	5
To educate at bachelor's degree level in agricultural extension.	1	2	3	4	5
To promote research in agricultural extension at community, region, and national levels.	1	2	3	4	5

## 3.7 How appropriate do you believe are the Bachelor's degree program structure for the STOU

Agricultural Extension Program when participating in ASEAN Community?

(1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Program structure	Appropriate Structure				
	AI	I	N	A	AA
Life Skills	1	2	3	4	5
Science, Technology and Environment for live	1	2	3	4	5
Thai Studies	1	2	3	4	5
Thailand and the World Community	1	2	3	4	5
Farm management	1	2	3	4	5
Fundamentals of Agricultural Resources Management and Environment	1	2	3	4	5
Economic Crops	1	2	3	4	5
Animal Production	1	2	3	4	5
Fundamentals of Agricultural Extension	1	2	3	4	5
Agricultural Community Development	1	2	3	4	5
Principles of Administration in Agricultural Extension	1	2	3	4	5
Knowledge Management for Agricultural Extension	1	2	3	4	5
Integrated Agricultural System Management	1	2	3	4	5
Information and Communication Media in Agricultural Extension	1	2	3	4	5
Leadership, Human Relation and Psychology for farmers	1	2	3	4	5
Development of Group, Institution, and Organization in Agriculture	1	2	3	4	5
Research in Agricultural Extension	1	2	3	4	5
Professional Experience in Agricultural Extension	1	2	3	4	5
Fundamentals of Agribusiness	1	2	3	4	5
English for Communication	1	2	3	4	5
Thai for Communication	1	2	3	4	5
Soil, Water and Fertilizer	1	2	3	4	5
Ornamental Plants in Landscaping	1	2	3	4	5
Agro-tourism Management	1	2	3	4	5
Animal Production for Recreation and Economics	1	2	3	4	5
Introduction to crop pets	1	2	3	4	5
Crop Commodity Management	1	2	3	4	5
Feeds and feeding	1	2	3	4	5
Cereal and Forage Crop production Management	1	2	3	4	5
Industrial Crop Production Management	1	2	3	4	5
Flowering and Ornamental Plant Production Management	1	2	3	4	5
Fruit and Vegetable Production Management	1	2	3	4	5

**Section 4:** The next section is about participants' attitude toward the STOU distance learning system.

4.1 How adequate are the STOU learning system for the STOU Agricultural Extension program when participating in ASEAN Community?

(1 = Very Inadequate, 2 = Inadequate, 3 = Uncertain, 4 = Adequate, and 5 = More than Adequate)

Learning System	Adequate Learning System				
	VI	I	U	A	MA
The main teaching materials are print-based packages that mailed to students.	1	2	3	4	5
Textbooks	1	2	3	4	5
Workbooks	1	2	3	4	5
Multimedia CDs contain audiovisual study aids	1	2	3	4	5
e-Learning on the STOU website	1	2	3	4	5
Radio broadcasts	1	2	3	4	5
TV broadcasts	1	2	3	4	5
Media on demand consist a past radio and TV programs	1	2	3	4	5
Webcasts	1	2	3	4	5
Face to face tutorial sessions	1	2	3	4	5
e-Tutorial sessions	1	2	3	4	5
Satellite television broadcasts	1	2	3	4	5

4.2 How adequate are the STOU educational services for the STOU Agricultural Extension program when participating in ASEAN Community?

(1 = Very Inadequate, 2 = Inadequate, 3 = Uncertain, 4 = Adequate, and 5 = More than Adequate)

Educational Services	Adequate Educational Service				
	VI	I	U	A	MA
Regional Distance Education Centers	1	2	3	4	5
Provincial Study Centers in the main secondary school of every province	1	2	3	4	5
STOU Corners in all provincial libraries	1	2	3	4	5
Special Study Centers that work with government agencies	1	2	3	4	5
Library and Information Services	1	2	3	4	5
Guidance for prospective Students	1	2	3	4	5
Student Activities such as student clubs	1	2	3	4	5
Practical Experience Programs	1	2	3	4	5
Professional Experience Activities	1	2	3	4	5
Examination Centers that has set up at least one examination center in each province	1	2	3	4	5
Examination Schedules	1	2	3	4	5
Examination Results that sent to students approximately 30-45 days after each examination	1	2	3	4	5
Grading System (Honors - H = over 76%, Satisfactory - S = 60% - 75%), Unsatisfactory - U = less than 60%, and Incomplete - I)	1	2	3	4	5

**Section 5:** The next section is about participants' suggestion toward the STOU Agricultural Extension program and the STOU distance learning system. Please write your suggestion to the best of your knowledge.

5.1 Please write your suggestion toward the STOU Agricultural Extension program for participating in the ASEAN Community.

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5.2 Please write your suggestion toward the STOU distance learning system for participating in the ASEAN Community.

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Thank you for your participation

APPENDIX C

QUESTIONNAIRE FOR MASTER'S DEGREE STUDENTS

No. ....



### Research Questionnaire

#### “STOU Graduate Students (Master’s Degree)”



“ATTITUDE OF THAI INSTRUCTORS AND STUDENTS TOWARD A DISTANCE LEARNING SYSTEM FOR AGRICULTURAL EXTENSION PROGRAM FOR PARTICIPATING IN THE ASEAN COMMUNITY”

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#### **Instruction:**

The purpose of the study is to examine the attitude of Thai instructors and students toward a distance learning system for the Agricultural Extension and Development program for participating in the ASEAN Community. This questionnaire will ask about your personal beliefs of the STOU distance learning system, the STOU Agricultural Extension and Development program, and your knowledge about the ASEAN Community.

There are five sections in this questionnaire. The first section is about socioeconomic characteristics of participants. The second section is about the ASEAN Community. The third section asks participants about their attitude toward the STOU Agricultural Extension and Development program. The fourth section asks participants about their attitude toward the STOU distance learning system. Finally, the fifth section consists of some open– ended questions for participants to suggest ways to improve the program and the distance learning system.

Do not write your name on this questionnaire. Your responses will be anonymous and will never be linked to you personally. Your participation is entirely voluntary. If there are items you do not feel comfortable answering, please skip them. Thank you for your participation.

Chalernsak Toomhirun

Graduate Student, Mississippi State University

**Section 1:** The next section is for demographic purpose. Please answer to the best of your knowledge by circling the appropriate answer beneath each question.

- 1.1. What is your gender?  
 (1) Male (2) Female
- 1.2. What is your current age as of January 1?  
 (1) Under 18 years old (2) 18-29 years old (3) 30 to 49 years old  
 (4) 50 to 64 years old (5) Over 65 years old
- 1.3. What region do you currently live?  
 (1) North (2) Northeast (3) Central region  
 (4) East (5) West (6) South  
 (7) Bangkok and Vicinities (8) Other (please specify).....
- 1.4. What is your current occupation?  
 (1) Agricultural Extension Agent (2) Agriculturist  
 (3) Government officer in other position (4) Service worker / Employee  
 (5) Trader (6) Non occupation  
 (7) Other (please specify).....
- 1.5. What is your current work status?  
 (1) Employer (2) Government employee (3) Private employee  
 (4) Own account worker (5) Unpaid family worker (6) Members of producers' cooperatives  
 (7) Other (please specify).....
- 1.6 How many years of total work experience do you have? ..... years.
- 1.7 What is your marital status?  
 (1) Single (never married) (2) Married (3) Divorced/widowed  
 (4) I choose not to answer this question
- 1.8 What is your current monthly income? (baht/month) (Note: \$1 = 32.82 baht)  
 (1) Less than 3,000 (2) 3,001-6,000 (3) 6,001-9,000  
 (4) 9,001-12,000 (5) 12,001-15,000 (6) 15,001-18,000  
 (7) 18,000-21,000 (8) 21,001-24,000 (9) Over 24,000
- 1.9 How much are your current learning expenses at STOU? (baht/ semester)  
 (1) Less than 5,000 (2) 5,001 - 10,000 (3) 10,001 - 15,000  
 (4) 15,001 - 20,000 (5) 20,001 - 25,000 (6) 25,001 - 30,000  
 (7) 30,001 - 35,000 (8) 35,001 - 40,000 (9) Over 40,001
- 1.10 Please order your current learning expenses from greatest expense (1) to least expense (7).  
 ( ) Tuition  
 ( ) Traveling  
 ( ) Accommodation  
 ( ) School supply  
 ( ) Text book  
 ( ) Communication  
 ( ) Other (please specify).....
- 1.11 How many years have you been a student at STOU? .....years.
- 1.12 How many years of experience do you have in distance learning? ..... years.

1.13 Please indicate if you have the following devices available for distance learning and rate how important each device is for distance learning.

(1 = Very Unimportant, 2 = Unimportant, 3 = Neither Important or Unimportant, 4 = Important, and 5 = Very Important)

Devices	Have or not?		Importance for learning				
	Yes	No	VU	U	N	I	VI
Electricity	yes	no	1	2	3	4	5
Radio	yes	no	1	2	3	4	5
Cassette player	yes	no	1	2	3	4	5
Compact disc player	yes	no	1	2	3	4	5
Mp3 player	yes	no	1	2	3	4	5
Television	yes	no	1	2	3	4	5
Video tape player	yes	no	1	2	3	4	5
VCD player	yes	no	1	2	3	4	5
DVD player	yes	no	1	2	3	4	5
Personal Computer	yes	no	1	2	3	4	5
Internet access	yes	no	1	2	3	4	5
Satellite receiver	yes	no	1	2	3	4	5
Smart phone or tablet	yes	no	1	2	3	4	5
A room for study	yes	no	1	2	3	4	5
e-mail address	yes	no	1	2	3	4	5

1.14 Please rate your personal skill level on using the following technologies for distance learning.

(1 = Poor, 2 = Below Average, 3 = Average, 4 = Above Average, and 5 = Excellent)

Technologies	Personal skill				
	P	BA	A	AA	E
Audio devices	1	2	3	4	5
Video devices	1	2	3	4	5
Satellite devices	1	2	3	4	5
Computer devices	1	2	3	4	5
Internet system	1	2	3	4	5
Electronic mail	1	2	3	4	5
Social network	1	2	3	4	5
Word processing program	1	2	3	4	5
Presentation program	1	2	3	4	5
English skill	1	2	3	4	5



**Section 2:** The section is to determine your knowledge about the ASEAN community.

2.1 Please answer TRUE or FALSE to the following questions about your fundamental knowledge of the ASEAN Community.

Questions	True	False
1. ASEAN was founded on August 8, 1967 in Thailand.	T	F
2. There are 11 countries that belong to ASEAN today.	T	F
3. The working language of ASEAN shall be English.	T	F
4. ASEAN was established to accelerate economic growth, promote regional peace and stability, and enhance cooperation on economic, social, cultural, technical, and educational matters among Southeast Asian countries.	T	F
5. The ASEAN Community is comprised of two pillars, namely the ASEAN Political-Security Community (APSC) and the ASEAN Economic Community (AEC).	T	F
6. A single market and production base is one of the goals of the AEC.	T	F
7. Strengthening ASEAN University Networking is one of four priorities of the AEC.	T	F
8. The AEC will transform ASEAN into a region with free movement of goods, services, investment, skilled labor, and freer flow of capital.	T	F
9. The benefit of Thailand after AEC- joining is agricultural product such as rubber, coconut, coffee, and palm.	T	F
10. If ASEAN were a single entity, it would rank as the ninth largest economy in the world.	T	F
11. Every ASEAN Country has Open University.	T	F
12. Life-long education is a principle of Open University	T	F
13. Agriculture Programs are provided by every open university in ASEAN.	T	F
14. ASEAN Study Program is provided by Open University in Indonesia.	T	F
15. ASEAN Study Program is the cooperative program among Open University in ASEAN.	T	F

2.2 Please choose the sources of information where you learned about ASEAN. (You can choose more than one).

- Neighborhood       Community Leader       Government officer  
 Educational institute       Newspaper       Printed material  
 Radio broadcasting       Television       Website  
 Other, please specify.....

**Section 3:** The next section is about your attitude toward the STOU Agricultural Extension and Development program.

3.1 How important are the following factors when considering to study in the STOU Agricultural Extension and Development program? (1= Very Unimportant, 2 = Unimportant, 3 = Neither Important or Unimportant, 4 = Important, and 5 = Very Important)

Factors	Important Factors				
	VU	U	N	I	VI
I want to upgrade my educational qualifications.	1	2	3	4	5
I can study without taking time out from working.	1	2	3	4	5
I can study in other educational institutions at the same time.	1	2	3	4	5
The program is useful for my job.	1	2	3	4	5
The program is affordable.	1	2	3	4	5

3.2 How appropriate are the delivery channels for the STOU Agricultural Extension and Development program? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Delivery Channels	Appropriate Channel				
	AI	I	N	A	AA
Post mail	1	2	3	4	5
Internet	1	2	3	4	5
Radio broadcasting	1	2	3	4	5
Television broadcasting	1	2	3	4	5
Satellite	1	2	3	4	5
Face to face	1	2	3	4	5

3.3 How satisfied are you with the distance learning methods used in the STOU Agricultural Extension and Development program? (1 = Very dissatisfied, 2 = Dissatisfied, 3 = Unsure, 4 = Satisfied, and 5 = Very satisfied)

Distance Learning Methods	Satisfied Method				
	VD	D	U	S	VS
Textbooks and workbooks	1	2	3	4	5
Radio programs	1	2	3	4	5
Television programs	1	2	3	4	5
Media on demand	1	2	3	4	5
Multimedia	1	2	3	4	5
E-Learning and E-Training	1	2	3	4	5
E-tutorials	1	2	3	4	5
Face-to-face tutorials	1	2	3	4	5

3.4 Please indicate your level of agreement with the curriculum for the STOU Agricultural Extension and Development program.

(1 = Strong Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, and 5 = Strong Agree)

Program's curriculum	Agreement with the curriculum				
	SD	D	N	A	SA
The instructional methodology is appropriate for the Curriculum.	1	2	3	4	5
The instructional material is current.	1	2	3	4	5
The instructions are clearly written and easy to understand.	1	2	3	4	5
There are adequate examinations to ascertain student progress.	1	2	3	4	5
The examinations are comprehensive.	1	2	3	4	5
The tutorial supports assist students in achieving the competence.	1	2	3	4	5
There are adequate materials to support learning via the library's services.	1	2	3	4	5
The Information Call Center support useful information for your learning.	1	2	3	4	5
You achieve your personal goals with the program.	1	2	3	4	5
The cost of STOU Agricultural Extension and Development program is reasonable to your benefits.	1	2	3	4	5

3.5 How appropriate are the applicant qualifications when applying for the STOU Agricultural Extension and Development program when participating in ASEAN Community? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Applicant Qualifications	Appropriate Qualification				
	AI	I	N	A	AA
Applicants must hold a bachelor's degree in agricultural extension, agricultural development, a field related to agriculture, or others from a high educational institution accredited by Office of higher Education Commission.	1	2	3	4	5
Applicants have work experience related to agricultural extension, agricultural development or other agricultural fields at least one year.	1	2	3	4	5
Applicants have a grade point average for the bachelor's degree of 2.50 or higher.	1	2	3	4	5

3.6 How appropriate are the program objectives for the STOU Agricultural Extension and Development program when participating in ASEAN Community? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Objectives	Appropriate Objective				
	AI	I	N	A	AA
To produce graduates with professional and academic knowledge and abilities in the field of agricultural extension and development.	1	2	3	4	5
To produce graduates who can apply their knowledge of agricultural extension and development in accordance with economic, social, and environmental changes.	1	2	3	4	5
To produce graduates with professional ethics and consciousness of their responsibility to society and the environment.	1	2	3	4	5

3.7 How appropriate do you believe are the Master's degree program structure for the STOU Agricultural Extension and Development Program when participating in ASEAN Community? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Program structure	Appropriate Structure				
	AI	I	N	A	AA
Agricultural Extension for Development	1	2	3	4	5
Thai Society and Management in Agricultural Extension and Development	1	2	3	4	5
International Agricultural Extension and Development	1	2	3	4	5
Research and Statistics for Agricultural Extension and Development	1	2	3	4	5
Resource Management for Agricultural Extension and Development	1	2	3	4	5
Communication in Agricultural Extension and Development	1	2	3	4	5
Organization for Agricultural Extension and Development	1	2	3	4	5
Independent Study	1	2	3	4	5
Thesis	1	2	3	4	5
Graduate Professional Experience in Agricultural Extension and Development	1	2	3	4	5

**Section 4:** The next section is about participants' attitude toward the STOU distance learning system.

4.1 How adequate are the STOU learning system for the STOU Agricultural Extension and Development Program when participating in ASEAN Community? (1 = Very Inadequate, 2 = Inadequate, 3 = Uncertain, 4 = Adequate, and 5 = More than Adequate)

Learning System	Adequate Learning System				
	VI	I	U	A	MA
The main teaching materials are print-based packages that mailed to students.	1	2	3	4	5
Textbooks	1	2	3	4	5
Workbooks	1	2	3	4	5
Multimedia CDs contain audiovisual study aids	1	2	3	4	5
e-Learning on the STOU website	1	2	3	4	5
Radio broadcasts	1	2	3	4	5
TV broadcasts	1	2	3	4	5
Media on demand consist a past radio and TV programs	1	2	3	4	5
Webcasts	1	2	3	4	5
Face to face tutorial sessions	1	2	3	4	5
e-Tutorial sessions	1	2	3	4	5
Satellite television broadcasts	1	2	3	4	5

4.2 How adequate are the STOU educational services for the STOU Agricultural Extension and Development program when participating in ASEAN Community? (1 = Very Inadequate, 2 = Inadequate, 3 = Uncertain, 4 = Adequate, and 5 = More than Adequate)

Educational Services	Adequate Educational Service				
	VI	I	U	A	MA
Regional Distance Education Centers	1	2	3	4	5
Provincial Study Centers in the main secondary school of every province	1	2	3	4	5
STOU Corners in all provincial libraries	1	2	3	4	5
Special Study Centers that work with government agencies	1	2	3	4	5
Library and Information Services	1	2	3	4	5
Guidance for prospective Students	1	2	3	4	5
Student Activities such as student clubs	1	2	3	4	5
Practical Experience Programs	1	2	3	4	5
Professional Experience Activities	1	2	3	4	5
Examination Centers that has set up at least one examination center in each province	1	2	3	4	5
Examination Schedules	1	2	3	4	5
Examination Results that sent to students approximately 30-45 days after each examination	1	2	3	4	5
Grading System (A, B+, B, C+, C, D, and F) are useful educational service to support distance learning system	1	2	3	4	5

**Section 5:** The next section is about participants' suggestion toward the STOU Agricultural Extension and Development program and the STOU distance learning system. Please write your suggestion to the best of your knowledge.

5.1 Please write your suggestion toward the STOU Agricultural Extension and Development program for participating in the ASEAN Community.

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5.2 Please write your suggestion toward the STOU distance learning system for participating in the ASEAN Community.

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Thank you for your participation

APPENDIX D  
QUESTIONNAIRE FOR DOCTORAL STUDENTS

No. ....



### Research Questionnaire

#### “STOU Graduate Students (Doctoral Degree)”



“ATTITUDE OF THAI INSTRUCTORS AND STUDENTS TOWARD A DISTANCE LEARNING SYSTEM FOR AGRICULTURAL EXTENSION PROGRAM FOR PARTICIPATING IN THE ASEAN COMMUNITY”

#### **Instruction:**

The purpose of the study is to examine the attitude of Thai instructors and students toward a distance learning system for the Agricultural Extension and Development program for participating in the ASEAN Community. This questionnaire will ask about your personal beliefs of the STOU distance learning system, the STOU Agricultural Extension and Development program, and your knowledge about the ASEAN Community.

There are five sections in this questionnaire. The first section is about socioeconomic characteristics of participants. The second section is about the ASEAN Community. The third section asks participants about their attitude toward the STOU Agricultural Extension and Development program. The fourth section asks participants about their attitude toward the STOU distance learning system. Finally, the fifth section consists of some open– ended questions for participants to suggest ways to improve the program and the distance learning system.

Do not write your name on this questionnaire. Your responses will be anonymous and will never be linked to you personally. Your participation is entirely voluntary. If there are items you do not feel comfortable answering, please skip them. Thank you for your participation.

Chalernsak Toomhirun

Graduate Student, Mississippi State University

**Section 1:** The next section is for demographic purpose. Please answer to the best of your knowledge by circling the appropriate answer beneath each question.

- 1.1. What is your gender?  
 (1) Male (2) Female
- 1.2. What is your current age as of January 1, 2014?  
 (1) Under 18 years old (2) 18-29 years old (3) 30 to 49 years old  
 (4) 50 to 64 years old (5) Over 65 years old
- 1.3. What region do you currently live?  
 (1) North (2) Northeast (3) Central region  
 (4) East (5) West (6) South  
 (7) Bangkok and Vicinities (8) Other (please specify).....
- 1.4. What is your current occupation?  
 (1) Agricultural Extension Agent (2) Agriculturist  
 (3) Government officer in other position (4) Service worker / Employee  
 (5) Trader (6) Non occupation  
 (7) Other (please specify).....
- 1.5. What is your current work status?  
 (1) Employer (2) Government employee (3) Private employee  
 (4) Own account worker (5) Unpaid family worker (6) Members of producers' cooperatives  
 (7) Other (please specify).....
- 1.6 How many years of total work experience do you have? ..... years.
- 1.7 What is your current marital status?  
 (1) Single (never married) (2) Married (3) Divorced/widowed  
 (4) I choose not to answer this question
- 1.8 What is your current monthly income? (baht/month) (Note: \$1 = 32.82 baht)  
 (1) Less than 3,000 (2) 3,001-6,000 (3) 6,001-9,000  
 (4) 9,001-12,000 (5) 12,001-15,000 (6) 15,001-18,000  
 (7) 18,000-21,000 (8) 21,001-24,000 (9) Over 24,000
- 1.9 How much are your current learning expenses at STOU? (baht/ semester)  
 (1) Less than 5,000 (2) 5,001 - 10,000 (3) 10,001 - 15,000  
 (4) 15,001 - 20,000 (5) 20,001 - 25,000 (6) 25,001 - 30,000  
 (7) 30,001 - 35,000 (8) 35,001 - 40,000 (9) Over 40,001
- 1.10 Please order your learning expenses from greatest expense (1) to least expense (7).  
 ( ) Tuition  
 ( ) Traveling  
 ( ) Accommodation  
 ( ) School supply  
 ( ) Text book  
 ( ) Communication  
 ( ) Other (please specify).....
- 1.11 How many years have you been a student at STOU? .....years.
- 1.12 How many years of experience do you have in distance learning? ..... years.



1.13 Please indicate if you have the following devices available for distance learning and rate how important each device is for distance learning.

(1 = Very Unimportant, 2 = Unimportant, 3 = Neither Important or Unimportant, 4 = Important, and 5 = Very Important)

Devices	Have or not?		Importance for learning				
	Yes	No	VU	U	N	I	VI
Electricity	yes	no	1	2	3	4	5
Radio	yes	no	1	2	3	4	5
Cassette player	yes	no	1	2	3	4	5
Compact disc player	yes	no	1	2	3	4	5
Mp3 player	yes	no	1	2	3	4	5
Television	yes	no	1	2	3	4	5
Video tape player	yes	no	1	2	3	4	5
VCD player	yes	no	1	2	3	4	5
DVD player	yes	no	1	2	3	4	5
Personal Computer	yes	no	1	2	3	4	5
Internet access	yes	no	1	2	3	4	5
Satellite receiver	yes	no	1	2	3	4	5
Smart phone or tablet	yes	no	1	2	3	4	5
A room for study	yes	no	1	2	3	4	5
e-mail address	yes	no	1	2	3	4	5

1.14 Please rate your personal skill level on using the following technologies for distance learning.

(1 = Poor, 2 = Below Average, 3 = Average, 4 = Above Average, and 5 = Excellent)

Technologies	Personal skill				
	P	BA	A	AA	E
Audio devices	1	2	3	4	5
Video devices	1	2	3	4	5
Satellite devices	1	2	3	4	5
Computer devices	1	2	3	4	5
Internet system	1	2	3	4	5
Electronic mail	1	2	3	4	5
Social network	1	2	3	4	5
Word processing program	1	2	3	4	5
Presentation program	1	2	3	4	5
English skill	1	2	3	4	5

**Section 2:** The section is to determine your knowledge about the ASEAN community.

2.1 Please answer TRUE or FALSE to the following questions about your fundamental knowledge of the ASEAN Community.

Questions	True	False
1. ASEAN was founded on August 8, 1967 in Thailand.	T	F
2. There are 11 countries that belong to ASEAN today.	T	F
3. The working language of ASEAN shall be English.	T	F
4. ASEAN was established to accelerate economic growth, promote regional peace and stability, and enhance cooperation on economic, social, cultural, technical, and educational matters among Southeast Asian countries.	T	F
5. The ASEAN Community is comprised of two pillars, namely the ASEAN Political-Security Community (APSC) and the ASEAN Economic Community (AEC).	T	F
6. A single market and production base is one of the goals of the AEC.	T	F
7. Strengthening ASEAN University Networking is one of four priorities of the AEC.	T	F
8. The AEC will transform ASEAN into a region with free movement of goods, services, investment, skilled labor, and freer flow of capital.	T	F
9. The benefit of Thailand after AEC- joining is agricultural product such as rubber, coconut, coffee, and palm.	T	F
10. If ASEAN were a single entity, it would rank as the ninth largest economy in the world.	T	F
11. Every ASEAN Country has Open University.	T	F
12. Life-long education is a principle of Open University	T	F
13. Agriculture Programs are provided by every open university in ASEAN.	T	F
14. ASEAN Study Program is provided by Open University in Indonesia.	T	F
15. ASEAN Study Program is the cooperative program among Open University in ASEAN.	T	F

2.2 Please choose the sources of information where you learned about ASEAN. (You can choose more than one).

- Neighborhood                       Community Leader                       Government officer  
 Educational institute                       Newspaper                       Printed material  
 Radio broadcasting                       Television                       Website  
 Other, please specify.....

**Section 3:** The next section is about your attitude toward the STOU Agricultural Extension and Development program.

3.1 How important are the following factors when considering to study in the STOU Agricultural Extension and Development program? (1= Very Unimportant, 2 = Unimportant, 3 = Neither Important or Unimportant, 4 = Important, and 5 = Very Important)

Factors	Important Factors				
	VU	U	N	I	VI
I want to upgrade my educational qualifications.	1	2	3	4	5
I can study without taking time out from working.	1	2	3	4	5
I can study in other educational institutions at the same time.	1	2	3	4	5
The program is useful for my job.	1	2	3	4	5
The program is affordable.	1	2	3	4	5

3.2 How appropriate are the delivery channels for the STOU Agricultural Extension and Development program? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Delivery Channels	Appropriate Channel				
	AI	I	N	A	AA
Post mail	1	2	3	4	5
Internet	1	2	3	4	5
Radio broadcasting	1	2	3	4	5
Television broadcasting	1	2	3	4	5
Satellite	1	2	3	4	5
Face to face	1	2	3	4	5
Other (please specify)	1	2	3	4	5

3.3 How satisfied are you with the distance learning methods used in the STOU Agricultural Extension and Development program?  
(1 = Very dissatisfied, 2 = Dissatisfied, 3 = Unsure, 4 = Satisfied, and 5 = Very satisfied)

Distance Learning Methods	Satisfied Method				
	VD	D	U	S	VS
Textbooks and workbooks	1	2	3	4	5
Radio programs	1	2	3	4	5
Television programs	1	2	3	4	5
Media on demand	1	2	3	4	5
Multimedia	1	2	3	4	5
E-Learning and E-Training	1	2	3	4	5
E-tutorials	1	2	3	4	5
Face-to-face tutorials	1	2	3	4	5

3.4 Please indicate your level of agreement with the curriculum for the STOU Agricultural Extension and Development program.

(1 = Strong Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, and 5 = Strong Agree)

Program's curriculum	Agreement with the curriculum				
	SD	D	N	A	SA
The instructional methodology is appropriate for the Curriculum.	1	2	3	4	5
The instructional material is current.	1	2	3	4	5
The instructions are clearly written and easy to understand.	1	2	3	4	5
There are adequate examinations to ascertain student progress.	1	2	3	4	5
The examinations are comprehensive.	1	2	3	4	5
The tutorial supports assist students in achieving the competence.	1	2	3	4	5
There are adequate materials to support learning via the library's services.	1	2	3	4	5
The Information Call Center support useful information for your learning.	1	2	3	4	5
You achieve your personal goals with the program.	1	2	3	4	5
The cost of STOU Agricultural Extension and Development program is reasonable to your benefits.	1	2	3	4	5

3.5 How appropriate are the applicant qualifications when applying for the STOU Agricultural Extension and Development program when participating in ASEAN Community?

(1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Applicant Qualifications	Appropriate Qualification				
	AI	I	N	A	AA
Applicants must hold a master's degree in agricultural extension, agricultural development, a field related to agriculture, or others from a university or high educational institution accredited by Office of higher Education Commission.	1	2	3	4	5
Applicants have work experience related to agricultural extension, agricultural development or other agricultural fields at least three years.	1	2	3	4	5
Applicants have a grade point average for the master's degree of 3.50 or higher.	1	2	3	4	5
Applicants pass English language test as specified by the School of Agriculture and Cooperatives and approved by the Graduate Committees of STOU, the test score should not be over two years until the date of application.	1	2	3	4	5

3.6 How appropriate are the program objectives for the STOU Agricultural Extension and Development program when participating in ASEAN Community?

(1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Objectives	Appropriate Objective				
	AI	I	N	A	AA
To produce graduates with the knowledge and abilities to do research, create innovations, and expand the body of knowledge about agricultural extension and development in breadth and depth.	1	2	3	4	5
To produce graduates with the knowledge and abilities to apply concepts and theories of agricultural extension and development appropriately.	1	2	3	4	5
To produce graduates with professional ethics and morals in the field of agricultural extension and development.	1	2	3	4	5
To build up professionals and academics in the field of agricultural extension and development who can create innovations for government and private sector organizations and the agricultural society.	1	2	3	4	5

3.7 How appropriate do you believe are the Doctoral degree program structure for the STOU Agricultural Extension and Development Program when participating in ASEAN Community?

(1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Program Structure	Appropriate Structure				
	AI	I	N	A	AA
Advanced Agricultural Extension and Development	1	2	3	4	5
Advanced Research in Agricultural Extension and Development	1	2	3	4	5
Advanced Statistics in Agricultural Extension and Development Research	1	2	3	4	5
Advanced Seminar in Agricultural Extension and Development	1	2	3	4	5
Dissertation	1	2	3	4	5
Doctoral Professional Experience in Agricultural Extension and Development	1	2	3	4	5

**Section 4:** The next section is about participants' attitude toward the STOU distance learning system.

4.1 How adequate are the STOU learning system for the STOU Agricultural Extension and Development Program when participating in ASEAN Community?

(1 = Very Inadequate, 2 = Inadequate, 3 = Uncertain, 4 = Adequate, and 5 = More than Adequate)

Learning System	Adequate Learning System				
	VI	I	U	A	MA
The main teaching materials are print-based packages that mailed to students.	1	2	3	4	5
Textbooks	1	2	3	4	5
Workbooks	1	2	3	4	5
Multimedia CDs contain audiovisual study aids	1	2	3	4	5
e-Learning on the STOU website	1	2	3	4	5
Radio broadcasts	1	2	3	4	5
TV broadcasts	1	2	3	4	5
Media on demand consist a past radio and TV programs	1	2	3	4	5
Webcasts	1	2	3	4	5
Face to face tutorial sessions	1	2	3	4	5
e-Tutorial sessions	1	2	3	4	5
Satellite television broadcasts	1	2	3	4	5

4.2 How adequate are the STOU educational services for the STOU Agricultural Extension and Development program when participating in ASEAN Community?

(1 = Very Inadequate, 2 = Inadequate, 3 = Uncertain, 4 = Adequate, and 5 = More than Adequate)

Educational Services	Adequate Educational Service				
	VI	I	U	A	MA
Regional Distance Education Centers	1	2	3	4	5
Provincial Study Centers in the main secondary school of every province	1	2	3	4	5
STOU Corners in all provincial libraries	1	2	3	4	5
Special Study Centers that work with government agencies	1	2	3	4	5
Library and Information Services	1	2	3	4	5
Guidance for prospective Students	1	2	3	4	5
Student Activities such as student clubs	1	2	3	4	5
Practical Experience Programs	1	2	3	4	5
Professional Experience Activities	1	2	3	4	5
Examination Centers that has set up at least one examination center in each province	1	2	3	4	5
Examination Schedules	1	2	3	4	5
Examination Results that sent to students approximately 30-45 days after each examination	1	2	3	4	5
Grading System (A, B+, B, C+, C, D, and F) are useful educational service to support distance learning system	1	2	3	4	5

**Section 5:** The next section is about participants' suggestion toward the STOU Agricultural Extension and Development program and the STOU distance learning system. Please write your suggestion to the best of your knowledge.

5.1 Please write your suggestion toward the STOU Agricultural Extension and Development program for participating in the ASEAN Community.

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5.2 Please write your suggestion toward the STOU distance learning system for participating in the ASEAN Community.

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Thank you for your participation

APPENDIX E  
QUESTIONNAIRE FOR INSTRUCTORS

No. ....



## Research Questionnaire

### “STOU Instructors”



“ATTITUDE OF THAI INSTRUCTORS AND STUDENTS TOWARD A DISTANCE LEARNING SYSTEM FOR AGRICULTURAL EXTENSION PROGRAM FOR PARTICIPATING IN THE ASEAN COMMUNITY”

#### Instruction:

The purpose of the study is to examine the attitude of Thai instructors and students toward a distance learning system for the Agricultural Extension program and the Agricultural Extension and Development program for participating in the ASEAN Community. This questionnaire will ask about your personal beliefs of the STOU distance learning system, the STOU programs (Agricultural Extension program and Agricultural Extension and Development program), and opinion about the ASEAN Community.

There are five sections in this questionnaire. The first section is about socioeconomic characteristics of participants. The second section is about the ASEAN Community. The third section asks participants about their attitude toward the STOU programs. The fourth section asks participants about their attitude toward the STOU distance learning system. Finally, the fifth section consists of some open-ended questions for participants to suggest ways to improve the programs and the distance learning system.

Do not write your name on this questionnaire. Your responses will be anonymous and will never be linked to your personally. Your participation is entirely voluntary. If there are items you do not feel comfortable answering, please skip them. Thank you for your participation.

Chalernsak Toomhirun

Graduate Student, Mississippi State University



**Section 1:** The next section is for demographic purpose. Please answer to the best of your knowledge by circling the appropriate answer beneath each question.

1.1 What is your gender?

- (1) Male (2) Female

1.2 What is your current age as of January 1?

- (1) Under 18 years old (2) 18-29 years old (3) 30 to 49 years old  
(4) 50 to 64 years old (5) Over 65 years old

1.3 What is your current work status?

- (1) Instructor (2) Assistant Professor (3) Associate Professor  
(4) Professor (5) Other (please specify).....

1.4 How many years of total work experience do you have as a teacher? ..... years.

1.5 How many years of work experience do you have in distance learning system? ..... years.

1.6 What is your highest educational level?

- (1) Master's degree (2) Doctoral degree (3) Other (please specify).....

1.7 Please rate how important each device is for distance learning.

(1= Very Unimportant, 2 = Unimportant, 3 = Neither Important or Unimportant, 4 = Important, and 5 = Very Important)

Devices	Importance for learning				
	VU	U	N	I	VI
Electricity	1	2	3	4	5
Radio	1	2	3	4	5
Cassette player	1	2	3	4	5
Compact disc player	1	2	3	4	5
Mp3 player	1	2	3	4	5
Television	1	2	3	4	5
Video tape player	1	2	3	4	5
VCD player	1	2	3	4	5
DVD player	1	2	3	4	5
Personal Computer	1	2	3	4	5
Internet access	1	2	3	4	5
Satellite receiver	1	2	3	4	5
Smart phone or tablet	1	2	3	4	5
A room for study	1	2	3	4	5
e-mail address	1	2	3	4	5

1.8 Please rate your personal skill level on using the following technologies for distance learning.

(1 = Poor, 2 = Below Average, 3 = Average, 4 = Above Average, and 5 = Excellent)

Technologies	Personal skill				
	P	BA	A	AA	E
Audio devices	1	2	3	4	5
Video devices	1	2	3	4	5
Satellite devices	1	2	3	4	5
Computer devices	1	2	3	4	5
Internet system	1	2	3	4	5
Electronic mail	1	2	3	4	5
Social network	1	2	3	4	5
Word processing program	1	2	3	4	5
Presentation program	1	2	3	4	5
English skill	1	2	3	4	5

**Section 2:** The section is the effective factors of ASEAN community toward the programs.

2.1 How much do the following factors of the ASEAN Community affect the STOU programs?

(1 = Absolutely Unaffected, 2 = Unaffected, 3 = Neutral, 4 = Affect, and 5 = Absolutely Affect)

ASEAN Community Factors	Effective Factors				
	AU	U	N	A	AA
1. A rules-based community of shared values and norms	1	2	3	4	5
2. A cohesive, peaceful and resilient region with shared responsibility for comprehensive security	1	2	3	4	5
3. A dynamic and outward-looking region in an increasingly integrated and interdependent world	1	2	3	4	5
4. Single market and production base	1	2	3	4	5
5. Highly Competitive Economic Region	1	2	3	4	5
6. Equitable Economic Development	1	2	3	4	5
7. Integration into Global Economy	1	2	3	4	5
8. Human Development	1	2	3	4	5
9. Social Welfare and Protection	1	2	3	4	5
10. Social Justice and Rights	1	2	3	4	5
11. Environmental Sustainability	1	2	3	4	5
12. Building an ASEAN Identity	1	2	3	4	5
13. Narrowing the Development Gap	1	2	3	4	5
14. Cultural Exchanges among ASEAN countries	1	2	3	4	5
15. Economic Cooperation among ASEAN countries	1	2	3	4	5
16. Development Assistance among ASEAN countries	1	2	3	4	5
17. Educational Exchanges among ASEAN countries	1	2	3	4	5
18. Security and Military Cooperation among ASEAN countries	1	2	3	4	5
19. Political Cooperation among ASEAN countries	1	2	3	4	5
20. Sports Competitions among ASEAN countries	1	2	3	4	5
21. Tourism among ASEAN countries	1	2	3	4	5

2.2 Please choose the important sources of information where learning about ASEAN. (You can choose more than one).

- Neighborhood       Community Leader       Government officer  
 Educational institute       Newspaper       Printed material  
 Radio broadcasting       Television       Website  
 Other, please specify.....

**Section 3:** The next section is about participants' attitude toward the STOU programs.

3.1 How important are the following factors when student consider to study in the STOU Agricultural Extension and Development program? (1= Very Unimportant, 2 = Unimportant, 3 = Neither Important or Unimportant, 4 = Important, and 5 = Very Important)

Factors	Important Factors				
	VU	U	N	I	VI
They want to upgrade their educational qualifications.	1	2	3	4	5
They can study without taking time out from working.	1	2	3	4	5
They can study in other educational institutions at the same time.	1	2	3	4	5
The program is useful for their job.	1	2	3	4	5
The program is affordable.	1	2	3	4	5

3.2 How appropriate are the delivery channels for the STOU programs? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Delivery Channels	Appropriate Channel				
	AI	I	N	A	AA
Post mail	1	2	3	4	5
Internet	1	2	3	4	5
Radio broadcasting	1	2	3	4	5
Television broadcasting	1	2	3	4	5
Satellite	1	2	3	4	5
Face to face	1	2	3	4	5

3.3 How satisfied are you with the distance learning methods used in the STOU programs?

(1 = Very dissatisfied, 2 = Dissatisfied, 3 = Unsure, 4 = Satisfied, and 5 = Very satisfied)

Distance Learning Methods	Satisfied Method				
	VD	D	U	S	VS
Textbooks and workbooks	1	2	3	4	5
Radio programs	1	2	3	4	5
Television programs	1	2	3	4	5
Media on demand	1	2	3	4	5
Multimedia	1	2	3	4	5
E-Learning and E-Training	1	2	3	4	5
E-tutorials	1	2	3	4	5
Face-to-face tutorials	1	2	3	4	5

3.4 Please indicate your level of agreement with the curriculum for the STOU programs.

(1 = Strong Disagree, 2 = Disagree, 3 = Neither Agree or Disagree, 4 = Agree, and 5 = Strong Agree)

Program's curriculum	Agreement with the curriculum				
	SD	D	N	A	SA
The instructional methodology is appropriate for the Curriculum.	1	2	3	4	5
The instructional material is current.	1	2	3	4	5
The instructions are clearly written and easy to understand.	1	2	3	4	5
There are adequate examinations to ascertain student progress.	1	2	3	4	5
The examinations are comprehensive.	1	2	3	4	5
The tutorial supports assist students in achieving the competence.	1	2	3	4	5
There are adequate materials to support learning via the library's services.	1	2	3	4	5
The Information Call Center support useful information for your learning.	1	2	3	4	5
You achieve your personal goals with the program.	1	2	3	4	5
The cost of STOU Agricultural Extension and Development program is reasonable to your benefits.	1	2	3	4	5

3.5 How appropriate are the applicant qualifications when students apply for the STOU Agricultural Extension and Development program when participating in ASEAN Community? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Applicant Qualifications	Appropriate Qualification				
	AI	I	N	A	AA
<b>Bachelor's Degree</b>					
1. Applicants must have completed lower secondary school or its equivalent, and have at least five years' subsequent work experience at the beginning of the academic semester in which they enroll.	1	2	3	4	5
2. Applicants must have completed lower secondary school or its equivalent, and be at least twenty five years of age at the beginning of the academic semester in which they enroll.	1	2	3	4	5
3. Applicants must have completed lower secondary school or its equivalent, and received a training certificate as approved by the university.	1	2	3	4	5
4. Applicants must have completed upper secondary school or its equivalent.	1	2	3	4	5
5. Applicants must have completed a technical vocational certificate or its equivalent in agriculture or in any related fields.	1	2	3	4	5
6. Applicants must have completed a higher vocational certificate or diploma or its equivalent in agriculture or in any related fields.	1	2	3	4	5
<b>Master's Degree</b>					
1. Applicants must hold a bachelor's degree in agricultural extension, agricultural development, a field related to agriculture, or others from a high educational institution accredited by Office of higher Education Commission.	1	2	3	4	5
2. Applicants have work experience related to agricultural extension, agricultural development or other agricultural fields at least one year.	1	2	3	4	5
3. Applicants have a grade point average for the bachelor's degree of 2.50 or higher.	1	2	3	4	5
<b>Doctoral Degree</b>					
1. Applicants must hold a master's degree in agricultural extension, agricultural development, a field related to agriculture, or others from a university or high educational institution accredited by Office of higher Education Commission.	1	2	3	4	5
2. Applicants have work experience related to agricultural extension, agricultural development or other agricultural fields at least three years.	1	2	3	4	5
3. Applicants have a grade point average for the master's degree of 3.50 or higher.	1	2	3	4	5
4. Applicants pass English language test as specified by the School of Agriculture and Cooperatives and approved by the Graduate Committees of STOU, the test score should not be over two years until the date of application.	1	2	3	4	5

3.6 How appropriate are the program objectives for the STOU Agricultural Extension and Development program when participating in ASEAN Community? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Objectives	Appropriate Objective				
	AI	I	N	A	AA
<b>Bachelor's Degree</b>					
1. To fulfill academic knowledge in agricultural extension for personal in government and private organization, farmers, and general public.	1	2	3	4	5
2. To educate at bachelor's degree level in agricultural extension.	1	2	3	4	5
3. To promote research in agricultural extension at community, region, and national levels.	1	2	3	4	5
<b>Master's Degree</b>					
1. To produce graduates with professional and academic knowledge and abilities in the field of agricultural extension and development.	1	2	3	4	5
2. To produce graduates who can apply their knowledge of agricultural extension and development in accordance with economic, social, and environmental changes.	1	2	3	4	5
3. To produce graduates with professional ethics and consciousness of their responsibility to society and the environment.	1	2	3	4	5
<b>Doctoral Degree</b>					
1. To produce graduates with the knowledge and abilities to do research, create innovations, and expand the body of knowledge about agricultural extension and development in breadth and depth.	1	2	3	4	5
2. To produce graduates with the knowledge and abilities to apply concepts and theories of agricultural extension and development appropriately.	1	2	3	4	5
3. To produce graduates with professional ethics and morals in the field of agricultural extension and development.	1	2	3	4	5
4. To build up professionals and academics in the field of agricultural extension and development who can create innovations for government and private sector organizations and the agricultural society.	1	2	3	4	5

3.7 How appropriate do you believe are the Bachelor's degree program structure for the STOU Agricultural Extension Program when participating in ASEAN Community? (1 = Absolutely Inappropriate, 2 = Inappropriate, 3 = Neither Appropriate or Inappropriate, 4 = Appropriate, and 5 = Absolutely Appropriate)

Program Structure	Appropriate Structure				
	AI	I	N	A	AA
<b>Bachelor's degree program structure</b>					
1. Life Skills	1	2	3	4	5
2. Science, Technology and Environment for live	1	2	3	4	5
3. Thai Studies	1	2	3	4	5
4. Thailand and the World Community	1	2	3	4	5
5. Farm management	1	2	3	4	5
6. Fundamentals of Agricultural Resources Management and Environment	1	2	3	4	5
7. Economic Crops	1	2	3	4	5
8. Animal Production	1	2	3	4	5

Program Structure	Appropriate Structure				
	AI	I	N	A	AA
9. Fundamentals of Agricultural Extension	1	2	3	4	5
10. Agricultural Community Development	1	2	3	4	5
11. Principles of Administration in Agricultural Extension	1	2	3	4	5
12. Knowledge Management for Agricultural Extension	1	2	3	4	5
13. Integrated Agricultural System Management	1	2	3	4	5
14. Information and Communication Media in Agricultural Extension	1	2	3	4	5
15. Leadership, Human Relation and Psychology for farmers	1	2	3	4	5
16. Development of Group, Institution, and Organization in Agriculture	1	2	3	4	5
17. Research in Agricultural Extension	1	2	3	4	5
18. Professional Experience in Agricultural Extension	1	2	3	4	5
19. Fundamentals of Agribusiness	1	2	3	4	5
20. English for Communication	1	2	3	4	5
21. Thai for Communication	1	2	3	4	5
22. Soil, Water and Fertilizer	1	2	3	4	5
23. Ornamental Plants in Landscaping	1	2	3	4	5
24. Agro-tourism Management	1	2	3	4	5
25. Animal Production for Recreation and Economics	1	2	3	4	5
26. Introduction to crop pets	1	2	3	4	5
27. Crop Commodity Management	1	2	3	4	5
28. Feeds and feeding	1	2	3	4	5
29. Cereal and Forage Crop production Management	1	2	3	4	5
30. Industrial Crop Production Management	1	2	3	4	5
31. Flowering and Ornamental Plant Production Management	1	2	3	4	5
32. Fruit and Vegetable Production Management	1	2	3	4	5
<b>Master's degree program structure</b>					
1. Agricultural Extension for Development	1	2	3	4	5
2. Thai Society and Management in Agricultural Extension and Development	1	2	3	4	5
3. International Agricultural Extension and Development	1	2	3	4	5
4. Research and Statistics for Agricultural Extension and Development	1	2	3	4	5
5. Resource Management for Agricultural Extension and Development	1	2	3	4	5
6. Communication in Agricultural Extension and Development	1	2	3	4	5
7. Organization for Agricultural Extension and Development	1	2	3	4	5
8. Independent Study	1	2	3	4	5
9. Thesis	1	2	3	4	5
10. Graduate Professional Experience in Agricultural Extension and Development	1	2	3	4	5
<b>Doctoral degree program structure</b>					
1. Advanced Agricultural Extension and Development	1	2	3	4	5
2. Advanced Research in Agricultural Extension and Development	1	2	3	4	5
3. Advanced Statistics in Agricultural Extension and Development Research	1	2	3	4	5
4. Advanced Seminar in Agricultural Extension and Development	1	2	3	4	5
5. Dissertation	1	2	3	4	5
6. Doctoral Professional Experience in Agricultural Extension and Development	1	2	3	4	5

**Section 4:** The next section is about participants' attitude toward STOU distance learning system.

4.1 How adequate are the STOU learning system for the STOU programs when participating in ASEAN Community? (1 = Very Inadequate, 2 = Inadequate, 3 = Uncertain, 4 = Adequate, and 5 = More than Adequate)

Learning System	Adequate Learning System				
	VI	I	U	A	MA
1. The main teaching materials are print-based packages that mailed to students.	1	2	3	4	5
2. Textbooks	1	2	3	4	5
3. Workbooks	1	2	3	4	5
4. Multimedia CDs contain audiovisual study aids	1	2	3	4	5
5. e-Learning on the STOU website	1	2	3	4	5
6. Radio broadcasts	1	2	3	4	5
7. TV broadcasts	1	2	3	4	5
8. Media on demand consist a past radio and TV programs	1	2	3	4	5
9. Webcasts	1	2	3	4	5
10. Face to face tutorial sessions	1	2	3	4	5
11. e-Tutorial sessions	1	2	3	4	5
12. Satellite television broadcasts	1	2	3	4	5

4.2 How adequate are the STOU educational services for the STOU programs when participating in ASEAN Community? (1 = Very Inadequate, 2 = Inadequate, 3 = Uncertain, 4 = Adequate, and 5 = More than Adequate)

Educational Services	Adequate Educational Service				
	VI	I	U	A	MA
1. Regional Distance Education Centers	1	2	3	4	5
2. Provincial Study Centers in the main secondary school of every province	1	2	3	4	5
3. STOU Corners in all provincial libraries	1	2	3	4	5
4. Special Study Centers that work with government agencies	1	2	3	4	5
5. Library and Information Services	1	2	3	4	5
6. Guidance for prospective Students	1	2	3	4	5
7. Student Activities such as student clubs	1	2	3	4	5
8. Practical Experience Programs	1	2	3	4	5
9. Professional Experience Activities	1	2	3	4	5
10. Examination Centers that has set up at least one examination center in each province	1	2	3	4	5
11. Examination Schedules	1	2	3	4	5
12. Examination Results that sent to students approximately 30-45 days after each examination	1	2	3	4	5
13. Grading System are useful educational service to support distance learning system	1	2	3	4	5

**Section 5:** The next section is about participants' suggestion toward the STOU programs and the STOU distance learning system. Please write your suggestion to the best of your knowledge.

5.1 Please write your suggestion toward the STOU programs (Agricultural Extension program and Agricultural Extension and Development program) for participating in the ASEAN Community.

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5.2 Please write your suggestion toward the STOU distance learning system for participating in the ASEAN Community.

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Thank you for your participation



APPENDIX F  
FOCUS GROUP SCRIPT

### Focus Group Script

**TOPIC:** Attitude of Thai Instructors and Students toward a distance Learning System for Agricultural Extension program for Participating in the ASEAN Community

**Date of focus group:** ..... **Location of focus group:** .....

**Moderator name:** Chalernsak Toomhirun **Number and description of participants**.....

Question type	Purpose	Suggestion	Script
Opening (5 minutes)	Participants get acquainted and feel connected	<ul style="list-style-type: none"> <li>• Encourage comfort by identifying common characteristics of participants</li> <li>• Not a discussion question—personal characteristic or perspective question</li> <li>• Establish a sense of community in the group</li> </ul>	<ul style="list-style-type: none"> <li>• Hello. My name is Chalernsak Toomhirun. I am studying Ph.D. program in Agricultural and Extension Education at Mississippi State University. My dissertation topic is Attitude of Thai Instructors and Students toward a distance Learning System for Agricultural Extension program for Participating in the ASEAN Community.</li> <li>• My research purpose is to determine the attitudes of instructors and students in the Thai Open University toward the distance learning system for the Agricultural Extension program. Today I would like to have a conversation with you about             <ul style="list-style-type: none"> <li>○ STOU Agricultural Extension and Development Program</li> <li>○ ASEAN Community, and AEC</li> <li>○ STOU Distance Learning Systems</li> <li>○ Appropriate Learning Methods</li> </ul> </li> <li>• Let's go over some rules. First, let's all turn off our cell phones so we are not interrupted. So we can keep track of what people are saying, remember that we have one person talking at a time. Please do not interrupt someone when they are talking. Also, everything you tell us today will be kept completely confidential. We will summarize the things you tell us and combine it with other focus groups we are giving. One of my jobs today as the moderator is to make sure we discuss all of the issues we planned to discuss. If I ask you questions while you are talking, I'm not being rude; I'm just making sure everyone has a chance to talk and that we discuss all of the issues.</li> <li>• If you have any comments that you don't want to talk, you can write your comments on card notes. Don't write your name on the cards. Your responses will be anonymous and will never be linked to your personally.</li> <li>• Tell us your name, how long you've been a STOU student, and other information you may be interested in.</li> <li>• Let's begin</li> </ul>

Question type	Purpose	Suggestion	Script
Introductory (10 Minutes)	Begins discussion of topic	<ul style="list-style-type: none"> <li>Begins to focus the discussion on the topic</li> <li>Allows participants to discuss how they perceive or understand the phenomenon under investigation</li> <li>Gives the moderator clues about participants' experiences/reality</li> </ul>	<p>(1) What persuaded you to join the STOU Agricultural Extension program?</p> <p>(2) What was your impression of the STOU Agricultural Extension program?</p>
Transition (5 Minutes)	Moves smoothly into key questions	<ul style="list-style-type: none"> <li>Moves the conversation toward the central (key) questions of the study</li> <li>Takes the introductory questions to the next step</li> <li>Makes the connection between the participants and the topic of investigation</li> </ul>	<p>(3) What are the important factors that affect Thai agriculture for participating in the ASEAN Community?</p>
Key questions (20 Minutes)	Obtains insight on the central areas of the study	<ul style="list-style-type: none"> <li>3 questions at the "heart" of the study</li> <li>Begins about one third to one half the way into the focus group</li> </ul>	<p>(4) What benefits for the program that prepared you for participating in ASEAN Community?</p> <p>(5) What learning methods are appropriate for program development?</p> <p>(6) What are the additional supports for program development?</p>
Ending (5 Minutes)	Helps researchers determine where to place emphasis and bring closure to the discussion	<ul style="list-style-type: none"> <li>Bring closure to the discussion (all-things-considered questions)</li> <li>Enable participants to reflect on previous comments (summary questions)</li> <li>Provide one last opportunity to make critical comments (final question)</li> </ul>	<ul style="list-style-type: none"> <li>We are trying to help students and agriculturists succeed their goals after participating in the ASEAN Community. What advices do you for us?</li> <li>Have we missed any important perspectives on this topic?</li> <li>Is this an adequate summary of the group's comments?</li> </ul>

APPENDIX G  
TABLES OF RESULT

Table 37 Frequency and Percentage of Undergraduate Student's Ratings of Importance of Devices for distance learning ( $n = 251$ )

Devices for Distance Learning	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Electricity	6	2	3	1	13	5	44	18	185	74	4.59	.84
2. Radio	14	6	33	13	71	28	87	35	46	18	3.47	1.10
3. Cassette player	33	13	41	16	84	34	63	25	30	12	3.06	1.19
4. Compact Disc player	3	1	20	8	60	24	102	41	66	26	3.83	.95
5. Mp3 player	8	3	26	10	74	30	88	35	55	22	3.62	1.04
6. Television	4	2	15	6	38	15	87	35	107	42	4.11	.98
7. Video tape player	18	7	26	10	77	31	75	30	55	22	3.49	1.15
8. VCD player	3	1	17	7	63	25	85	34	83	33	3.91	.98
9. DVD player	5	2	18	7	48	19	94	38	86	34	3.95	1.00
10. Personal Computer	2	1	4	2	24	9	61	24	160	64	4.49	.78
11. Internet access	2	1	4	2	16	6	44	17	185	74	4.62	.75
12. Satellite receiver	6	2	11	4	50	20	81	32	103	42	4.05	1.00
13. Smart phone or tablet	7	3	17	7	54	21	80	32	93	37	3.94	1.05
14. A room for study	14	5	22	9	65	26	85	34	65	26	3.66	1.12
15. e-mail address	5	2	16	6	50	20	70	28	110	44	4.05	1.04

Note 1.00 – 1.80 = Very Unimportant, 1.81 – 2.60 = Unimportant, 2.61 – 3.40 = Neither Important or Unimportant, 3.41 – 4.20 = Important, and 4.21 – 5.00 = Very important

Table 38 Frequency and Percentage of Master's Degree Student's Ratings of Importance of Devices for distance learning ( $n = 104$ )

Devices for Distance Learning	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. Electricity	3	3	0	0	0	0	6	6	95	91	4.83	.70
2. Radio	12	11	24	24	47	45	12	11	9	9	2.83	1.07
3. Cassette player	27	26	21	20	42	40	13	13	1	1	2.42	1.04
4. Compact Disc player	6	6	13	12	34	33	38	37	13	12	3.38	1.05
5. Mp3 player	6	6	10	10	38	36	35	34	15	14	3.41	1.04
6. Television	3	3	8	8	20	19	40	38	33	32	3.88	1.04
7. Video tape player	11	11	20	19	36	35	21	20	16	15	3.11	1.20
8. VCD player	5	5	10	10	31	30	40	38	18	17	3.54	1.04
9. DVD player	5	5	8	8	34	33	37	35	20	19	3.57	1.04
10. Personal Computer	2	2	1	1	2	2	4	4	95	91	4.82	.69
11. Internet access	3	3	0	0	1	1	7	7	93	89	4.80	.73
12. Satellite receiver	4	4	5	5	20	19	27	26	48	46	4.06	1.10
13. Smart phone or tablet	1	1	5	5	15	14	32	31	51	49	4.22	.93
14. A room for study	3	3	5	5	20	19	23	22	53	51	4.13	1.07
15. e-mail address	2	2	1	1	4	4	23	22	74	71	4.60	.78

Note 1.00 – 1.80 = Very Unimportant, 1.81 – 2.60 = Unimportant, 2.61 – 3.40 = Neither Important or Unimportant, 3.41 – 4.20 = Important, and 4.21 – 5.00 = Very important

Table 39 Frequency and Percentage of Doctoral Student's Ratings of Importance of Devices for distance learning ( $n = 9$ )

Devices for Distance Learning	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Electricity	0	0	0	0	0	0	1	11	8	89	4.89	.33
2. Radio	3	33	1	11	3	34	0	0	2	22	2.67	1.58
3. Cassette player	2	22	1	11	4	45	1	11	1	11	2.78	1.30
4. Compact Disc player	0	0	1	11	4	45	1	11	3	33	3.67	1.12
5. Mp3 player	0	0	1	11	3	33	2	22	3	33	3.78	1.09
6. Television	0	0	0	0	2	22	3	33	4	45	4.22	.83
7. Video tape player	1	11	1	11	3	34	2	22	2	22	3.33	1.32
8. VCD player	0	0	0	0	3	33	2	33	4	45	4.11	.93
9. DVD player	0	0	0	0	3	33	2	22	4	45	4.11	.93
10. Personal Computer	0	0	0	0	0	0	1	11	8	89	4.89	.33
11. Internet access	0	0	1	11	0	0	0	0	8	89	4.67	1.00
12. Satellite receiver	1	11	0	0	2	22	2	22	4	45	3.89	1.36
13. Smart phone or tablet	0	0	0	0	3	33	1	11	5	56	4.22	.97
14. A room for study	1	11	0	0	3	33	1	11	4	45	3.78	1.39
15. e-mail address	0	0	0	0	2	22	0	0	7	78	4.56	.88

Note 1.00 – 1.80 = Very Unimportant, 1.81 – 2.60 = Unimportant, 2.61 – 3.40 = Neither Important or Unimportant, 3.41 – 4.20 = Important, and 4.21 – 5.00 = Very important

Table 40 Frequency and Percentage of Instructor's Ratings of Importance of Devices for distance learning ( $n = 10$ )

Devices for Distance Learning	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Electricity	0	0	0	0	0	0	1	10	9	90	4.90	.32
2. Radio	0	0	1	10	5	50	3	30	1	10	3.40	.84
3. Cassette player	2	20	2	20	4	40	1	10	1	10	2.70	1.25
4. Compact Disc player	0	0	2	20	3	30	3	30	2	20	3.50	1.08
5. Mp3 player	0	0	2	20	2	20	4	40	2	20	3.60	1.08
6. Television	0	0	0	0	2	20	5	50	3	30	4.10	.74
7. Video tape player	2	20	4	40	3	30	0	0	1	10	2.40	1.17
8. VCD player	0	0	1	10	1	10	6	60	2	20	3.90	.88
9. DVD player	0	0	1	10	1	10	5	50	3	30	4.00	.94
10. Personal Computer	0	0	0	0	0	0	2	20	8	80	4.80	.42
11. Internet access	0	0	0	0	0	0	1	10	9	90	4.90	.32
12. Satellite receiver	1	10	1	10	1	10	2	20	5	50	3.90	1.45
13. Smart phone or tablet	0	0	1	10	1	10	4	40	4	40	4.10	.99
14. A room for study	2	20	0	0	2	20	6	60	0	0	3.20	1.23
15. e-mail address	0	0	0	0	0	0	3	30	7	70	4.70	.48

*Note* 1.00 – 1.80 = Very Unimportant, 1.81 – 2.60 = Unimportant, 2.61 – 3.40 = Neither Important or Unimportant, 3.41 – 4.20 = Important, and 4.21 – 5.00 = Very important



Table 41 Frequency and Percentage of Self-Perceived Ability of Undergraduate Students with Distance Learning Technology Skills ( $n = 251$ )

Distance Learning Technology Skills	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Audio devices	7	3	14	5	92	37	87	35	51	20	3.64	.96
2. Video devices	12	5	41	16	93	37	45	18	32	13	2.95	1.22
3. Satellite devices	40	16	41	16	93	37	45	18	32	13	2.95	1.22
4. Computer devices	12	5	22	9	72	28	78	31	67	27	3.66	1.11
5. Internet system	8	3	16	6	60	24	80	32	87	35	3.88	1.06
6. Electronic mail	25	10	31	12	82	33	63	25	50	20	3.33	1.21
7. Social network	22	9	29	11	58	23	74	30	68	27	3.55	1.25
8. Word processing program	24	10	47	19	79	31	65	26	36	14	3.17	1.18
9. Presentation program	31	13	50	20	81	32	63	25	26	10	3.01	1.17
10. English skill	56	22	67	27	85	34	32	13	11	4	2.50	1.04

*Note* 1.00 – 1.80 = Poor, 1.81 – 2.60 = Below Average, 2.61 – 3.40 = Average, 3.41 – 4.20 = Above Average, 4.21 – 5.00 = Excellent

Table 42 Frequency and Percentage of Self-Perceived Ability of Master's Degree Students with Distance Learning Technology Skills ( $n = 104$ )

Distance Learning Technology Skills	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Audio devices	0	0	5	5	36	35	41	39	22	21	3.77	.84
2. Video devices	0	0	2	2	40	38	40	39	22	21	3.79	.80
3. Satellite devices	15	14	16	16	44	42	22	21	7	7	2.90	1.10
4. Computer devices	1	1	3	3	18	17	51	49	31	30	4.04	.82
5. Internet system	1	1	1	1	11	11	47	45	44	42	4.27	.77
6. Electronic mail	1	1	1	1	16	15	46	44	40	39	4.18	.80
7. Social network	1	1	3	3	17	16	42	40	41	40	4.14	.86
8. Word processing program	1	1	1	1	30	29	42	40	30	29	3.95	.84
9. Presentation program	1	1	3	3	31	30	47	45	22	21	3.83	.83
10. English skill	9	9	29	28	54	52	11	10	1	1	2.67	.82

*Note* 1.00 – 1.80 = Poor, 1.81 – 2.60 = Below Average, 2.61 – 3.40 = Average, 3.41 – 4.20 = Above Average, 4.21 – 5.00 = Excellent

Table 43 Frequency and Percentage of Self-Perceived Ability of Doctoral Students with Distance Learning Technology Skills ( $n = 9$ )

Distance Learning Technology Skills	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Audio devices	0	0	0	0	3	33	3	33	3	34	4.00	.87
2. Video devices	0	0	0	0	3	33	4	44	2	22	3.89	.78
3. Satellite devices	0	0	2	22	6	67	1	11	0	0	2.89	.60
4. Computer devices	0	0	0	0	2	22	5	56	2	22	4.00	.71
5. Internet system	0	0	0	0	2	22	4	45	3	33	4.11	.78
6. Electronic mail	0	0	0	0	3	33	2	22	4	45	4.11	.93
7. Social network	0	0	0	0	2	22	5	56	2	22	4.00	.71
8. Word processing program	0	0	0	0	2	22	3	33	4	45	4.22	.83
9. Presentation program	0	0	0	0	2	22	5	56	2	22	4.00	.71
10. English skill	0	0	0	0	4	44	4	44	1	12	3.67	.71

*Note* 1.00 – 1.80 = Poor, 1.81 – 2.60 = Below Average, 2.61 – 3.40 = Average, 3.41 – 4.20 = Above Average, 4.21 – 5.00 = Excellent

Table 44 Frequency and Percentage of Self-Perceived Ability of Instructors with Distance Learning Technology Skills ( $n = 10$ )

Distance Learning Technology Skills	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Audio devices	0	0	0	0	2	20	4	40	4	40	4.20	.79
2. Video devices	0	0	0	0	2	20	6	60	2	20	4.00	.67
3. Satellite devices	3	30	0	0	6	60	1	10	0	0	2.50	1.08
4. Computer devices	0	0	0	0	0	0	7	70	3	30	4.30	.48
5. Internet system	0	0	0	0	0	0	5	50	5	50	4.50	.53
6. Electronic mail	0	0	0	0	0	0	3	30	7	70	4.70	.48
7. Social network	0	0	0	0	0	0	5	50	5	50	4.50	.53
8. Word processing program	0	0	0	0	0	0	7	70	3	30	4.30	.48
9. Presentation program	0	0	0	0	0	0	6	60	4	40	4.40	.52
10. English skill	0	0	0	0	3	30	5	50	2	20	3.90	.74

*Note* 1.00 – 1.80 = Poor, 1.81 – 2.60 = Below Average, 2.61 – 3.40 = Average, 3.41 – 4.20 = Above Average, 4.21 – 5.00 = Excellent

Table 45 Frequency and Percentage of Importance of Factors by Undergraduate Students when Considering to Study in STOU Agricultural Extension Program ( $n = 251$ )

Factors	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. I want to upgrade my educational qualifications.	3	1	2	1	14	5	72	29	160	64	4.53	.74
2. I can study without taking time out from working.	3	1	9	3	15	6	67	27	157	63	4.46	.85
3. I can study in other educational institutions at the same time.	15	6	22	9	51	20	72	29	91	36	3.80	1.96
4. The program is useful for my job.	2	1	4	2	22	9	79	31	144	57	4.43	.78
5. The program is affordable.	6	2	8	3	15	5	80	32	145	58	4.39	.90

Note: 1.00 – 1.80 = Very Unimportant, 1.81 – 2.60 = Unimportant, 2.61 – 3.40 = Neither Important or Unimportant, 3.41 – 4.20 = Important, 4.21 – 5.00 = Very important

Table 46 Frequency and Percentage of Importance of Factors by Master's Degree Students when Considering to Study in STOU Agricultural Extension Program ( $n = 104$ )

Factors	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. I want to upgrade my educational qualifications.	2	2	3	3	5	5	20	19	74	71	4.55	.87
2. I can study without taking time out from working.	0	0	0	0	3	3	18	17	83	80	4.77	.49
3. I can study in other educational institutions at the same time.	20	19	10	10	35	34	23	22	16	15	3.05	1.31
4. The program is useful for my job.	0	0	0	0	1	1	18	17	85	82	4.81	.42
5. The program is affordable.	5	5	0	0	11	11	26	25	62	59	4.39	.86

Note: 1.00 – 1.80 = Very Unimportant, 1.81 – 2.60 = Unimportant, 2.61 – 3.40 = Neither Important or Unimportant, 3.41 – 4.20 = Important, 4.21 – 5.00 = Very important

Table 47 Frequency and Percentage of Importance of Factors by Doctoral Students when Considering to Study in STOU Agricultural Extension Program ( $n = 9$ )

Factors	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. I want to upgrade my educational qualifications.	0	0	0	0	0	0	1	11	8	89	4.89	.33
2. I can study without taking time out from working.	0	0	0	0	0	0	3	33	6	67	4.67	.50
3. I can study in other educational institutions at the same time.	2	22	0	0	3	34	2	22	2	22	3.22	1.48
4. The program is useful for my job.	0	0	0	0	0	0	1	11	8	89	4.89	.33
5. The program is affordable.	0	0	0	0	1	11	3	33	5	56	4.44	.73

Note: 1.00 – 1.80 = Very Unimportant, 1.81 – 2.60 = Unimportant, 2.61 – 3.40 = Neither Important or Unimportant, 3.41 – 4.20 = Important, 4.21 – 5.00 = Very important

Table 48 Frequency and Percentage of Importance of Factors by Instructors when students Considering to Study in STOU Agricultural Extension Program ( $n = 10$ )

Factors	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. I want to upgrade my educational qualifications.	0	0	0	0	0	0	3	30	7	70	4.70	.48
2. I can study without taking time out from working.	0	0	0	0	0	0	0	0	10	100	5.00	.00
3. I can study in other educational institutions at the same time.	0	0	0	0	3	30	5	50	2	20	3.90	.74
4. The program is useful for my job.	0	0	0	0	0	0	5	50	5	50	4.50	.53
5. The program is affordable.	0	0	0	0	2	20	3	30	5	50	4.30	.82

Note: 1.00 – 1.80 = Very Unimportant, 1.81 – 2.60 = Unimportant, 2.61 – 3.40 = Neither Important or Unimportant, 3.41 – 4.20 = Important, 4.21 – 5.00 = Very important



Table 49 Frequency and Percentage of Level of Appropriateness of Delivery Channels by Undergraduate Students for STOU Agricultural Extension Program ( $n = 251$ )

Delivery Channels	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Post mail	3	1	4	2	23	9	51	20	170	68	4.52	.82
2. Internet	1	1	3	1	43	17	63	25	141	56	4.35	.83
3. Radio broadcasting	7	3	40	16	92	37	69	27	43	17	3.40	1.04
4. Television broadcasting	6	2	22	9	71	28	73	29	79	32	3.78	1.06
5. Satellite	11	4	24	10	65	26	72	29	79	31	3.73	1.13
6. Face to face	25	10	30	12	68	27	65	25	66	26	3.45	1.27

*Note:* 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 50 Frequency and Percentage of Level of Appropriateness of Delivery Channels by Master's Degree Students for STOU Agricultural Extension Program ( $n = 104$ )

Delivery Channels	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Post mail	1	1	6	6	18	17	34	33	45	43	4.12	.96
2. Internet	0	0	0	0	3	3	14	13	87	84	4.81	.46
3. Radio broadcasting	22	21	22	21	44	42	11	11	5	5	2.57	1.09
4. Television broadcasting	11	11	16	15	38	36	28	27	11	11	3.12	1.30
5. Satellite	9	9	12	11	34	33	30	29	19	18	3.37	1.17
6. Face to face	0	0	1	1	9	9	30	29	64	61	4.51	.70

*Note:* 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 51 Frequency and Percentage of Level of Appropriateness of Delivery Channels by Doctoral Students for STOU Agricultural Extension Program ( $n = 9$ )

Delivery Channels	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Post mail	0	0	0	0	4	44	4	44	1	12	3.67	.71
2. Internet	0	0	0	0	0	0	2	22	7	78	4.78	.44
3. Radio broadcasting	2	22	1	11	3	34	2	22	1	11	2.89	1.36
4. Television broadcasting	1	11	0	0	5	56	2	22	1	11	3.33	1.41
5. Satellite	1	11	0	0	5	56	2	22	1	11	3.22	1.09
6. Face to face	0	0	0	0	3	33	4	45	2	22	3.89	.78

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 52 Frequency and Percentage of Level of Appropriateness of Delivery Channels by Instructors for STOU Agricultural Extension Program ( $n = 10$ )

Delivery Channels	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Post mail	0	0	0	0	1	10	5	50	4	40	4.30	.68
2. Internet	0	0	0	0	0	0	3	30	7	70	4.70	.48
3. Radio broadcasting	0	0	2	20	4	40	1	10	3	30	3.50	1.18
4. Television broadcasting	0	0	0	0	4	40	3	30	3	30	3.90	.88
5. Satellite	0	0	2	20	3	30	3	30	2	20	3.50	1.08
6. Face to face	0	0	0	0	2	20	2	20	6	60	4.40	.84

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 53 Frequency and Percentage of Level of Satisfaction of Distance Learning Methods by Undergraduate Students for STOU Agricultural Extension Program ( $n = 251$ )

Distance learning methods	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Textbooks and workbooks	1	1	0	0	15	6	85	34	150	56	4.53	.65
2. Radio programs	5	2	22	9	94	38	91	36	39	15	3.55	.93
3. Television programs	3	1	16	6	73	29	94	38	65	26	3.80	.94
4. Media on demand	3	1	10	4	56	22	108	43	74	30	3.96	.89
5. Multimedia	4	2	18	7	63	25	106	42	60	24	3.80	.94
6. E-Learning and e-Training	8	3	26	10	74	30	86	34	57	23	3.63	1.04
7. E-Tutorials	14	6	26	10	94	37	83	33	34	14	3.39	1.03
8. Face-to-face Tutorials	16	6	30	12	65	26	82	33	58	23	3.54	1.16

Note: 1.00 – 1.80 = Very Dissatisfied, 1.81 – 2.60 = Dissatisfied, 2.61 – 3.40 = Unsure, 3.41 – 4.20 = Satisfied, 4.21 – 5.00 = Very Satisfied

Table 54 Frequency and Percentage of Level of Satisfaction of Distance Learning Methods by Master's Degree Students for STOU Agricultural Extension Program ( $n = 104$ )

Distance learning methods	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Textbooks and workbooks	0	0	0	0	11	11	48	46	45	43	4.33	.66
2. Radio programs	15	15	23	22	49	47	15	14	2	2	2.67	.96
3. Television programs	7	7	15	14	45	43	30	29	7	7	3.14	.98
4. Media on demand	1	1	5	5	23	22	44	42	31	30	3.95	.90
5. Multimedia	1	1	2	2	24	23	41	39	36	35	4.05	.86
6. E-Learning and e-Training	0	0	1	1	7	7	38	36	58	56	4.47	.67
7. E-Tutorials	5	5	7	7	42	40	37	36	13	12	3.44	.96
8. Face-to-face Tutorials	0	0	0	0	3	3	19	18	82	79	4.76	.43

Note: 1.00 – 1.80 = Very Dissatisfied, 1.81 – 2.60 = Dissatisfied, 2.61 – 3.40 = Unsure, 3.41 – 4.20 = Satisfied, 4.21 – 5.00 = Very Satisfied

Table 55 Frequency and Percentage of Level of Satisfaction of Distance Learning Methods by Doctoral Students for STOU Agricultural Extension Program ( $n = 9$ )

Distance learning methods	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Textbooks and workbooks	0	0	1	11	0	0	1	11	7	78	4.56	1.01
2. Radio programs	2	22	1	11	3	34	2	22	1	11	2.89	1.36
3. Television programs	2	22	1	11	3	34	2	22	1	11	2.89	1.36
4. Media on demand	2	22	1	12	2	22	2	22	2	22	3.11	1.54
5. Multimedia	0	0	0	0	2	22	3	33	4	45	4.22	.83
6. E-Learning and e-Training	0	0	1	11	1	11	4	45	3	33	4.00	1.00
7. E-Tutorials	0	0	1	11	1	11	1	11	6	67	4.33	1.12
8. Face-to-face Tutorials	0	0	0	0	0	0	4	44	5	56	4.56	.53

Note: 1.00 – 1.80 = Very Dissatisfied, 1.81 – 2.60 = Dissatisfied, 2.61 – 3.40 = Unsure, 3.41 – 4.20 = Satisfied, 4.21 – 5.00 = Very Satisfied

Table 56 Frequency and Percentage of Level of Satisfaction of Distance Learning Methods by Instructors for STOU Agricultural Extension Program ( $n = 10$ )

Distance learning methods	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Textbooks and workbooks	0	0	0	0	0	0	1	10	9	90	4.90	.32
2. Radio programs	2	20	1	10	3	30	2	20	2	20	3.10	1.45
3. Television programs	1	10	1	10	2	20	4	40	2	20	3.50	1.27
4. Media on demand	1	10	0	0	5	50	2	20	2	20	3.40	1.17
5. Multimedia	0	0	2	20	1	10	6	60	1	10	3.60	.97
6. E-Learning and e-Training	0	0	1	10	1	10	5	50	3	30	4.00	.94
7. E-Tutorials	0	0	1	10	1	10	6	60	2	20	3.90	.88
8. Face-to-face Tutorials	0	0	0	0	1	10	2	20	7	70	4.60	.70

Note: 1.00 – 1.80 = Very Dissatisfied, 1.81 – 2.60 = Dissatisfied, 2.61 – 3.40 = Unsure, 3.41 – 4.20 = Satisfied, 4.21 – 5.00 = Very Satisfied



Table 57 Frequency and Percentage of Level of Agreement by Undergraduate Students with the Curriculum for STOU Agricultural Extension Program ( $n = 251$ )

Program's curriculum	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. The instructional methodology is appropriate for the Curriculum.	0	0	4	2	16	6	108	43	123	49	4.39	.68
2. The instructional material is current.	0	0	4	2	23	9	113	45	111	44	4.32	.71
3. The instructions are clearly written and easy to understand.	0	0	3	1	34	14	116	46	98	39	4.23	.72
4. There are adequate examinations to ascertain student progress.	0	0	3	1	44	18	115	46	89	35	4.16	.75
5 The examinations are comprehensive.	0	0	3	1	33	13	121	48	94	38	4.22	.71
6. The tutorial supports assist students in achieving the competence.	0	0	7	3	30	12	113	45	101	40	4.23	.76
7. There are adequate materials to support learning via the library's services.	0	0	8	3	67	27	116	46	59	24	3.90	.79
8. The Information Call Center support useful information for your learning.	0	0	3	1	40	16	120	48	88	35	4.17	.73
9. You achieve your personal goals with the program.	0	0	3	1	27	11	100	40	121	48	4.35	.72
10. The cost of STOU Agricultural Extension and Development program is reasonable to your benefits.	0	0	0	0	26	10	83	33	142	57	4.46	.68

Note: 1.00 – 1.80 = Strong Disagree, 1.81 – 2.60 = Disagree, 2.61 – 3.40 = Neither Agree or Disagree, 3.41 – 4.20 = Agree, 4.21 – 5.00 = Strong Agree

Table 58 Frequency and Percentage of Level of Agreement by Master's Degree Students with the Curriculum for STOU Agricultural Extension Program ( $n = 104$ )

Program's curriculum	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. The instructional methodology is appropriate for the Curriculum.	0	0	0	0	3	2.9	41	39.4	60	57.7	4.55	.56
2. The instructional material is current.	0	0	2	1.9	6	5.8	44	42.3	52	50	4.40	.69
3. The instructions are clearly written and easy to understand.	0	0	1	1	5	4.8	57	54.8	41	39.4	4.33	.61
4. There are adequate examinations to ascertain student progress.	1	1.0	0	0	13	12.5	52	50	38	36.5	4.21	.73
5 The examinations are comprehensive.	1	1.0	0	0	8	7.7	58	55.8	37	35.6	4.25	.68
6. The tutorial supports assist students in achieving the competence.	0	0	3	2.9	8	7.7	43	41.3	50	48.1	4.35	.75
7. There are adequate materials to support learning via the library's services.	3	2.9	9	8.7	33	31.7	48	46.2	11	10.6	3.53	.90
8. The Information Call Center support useful information for your learning.	0	0	3	2.9	21	20.2	58	55.8	22	21.2	3.95	.73
9. You achieve your personal goals with the program.	0	0	0	0	6	5.8	49	47.1	49	47.7	4.41	.60
10. The cost of STOU Agricultural Extension and Development program is reasonable to your benefits.	0	0	0	0	18	17.3	44	42.3	42	40.4	4.23	.73

Note: 1.00 – 1.80 = Strong Disagree, 1.81 – 2.60 = Disagree, 2.61 – 3.40 = Neither Agree or Disagree, 3.41 – 4.20 = Agree, 4.21 – 5.00 = Strong Agree

Table 59 Frequency and Percentage of Level of Agreement by Doctoral Students with the Curriculum for STOU Agricultural Extension Program ( $n = 9$ )

Program's curriculum	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. The instructional methodology is appropriate for the Curriculum.	0	0	0	0	1	11	2	22	6	67	4.56	.72
2. The instructional material is current.	0	0	0	0	1	11	3	33	5	56	4.44	.72
3. The instructions are clearly written and easy to understand.	0	0	0	0	0	0	4	44	5	56	4.56	.53
4. There are adequate examinations to ascertain student progress.	0	0	0	0	0	0	4	44	5	56	4.56	.53
5. The examinations are comprehensive.	0	0	0	0	0	0	3	33	6	67	4.67	.50
6. The tutorial supports assist students in achieving the competence.	0	0	0	0	0	0	3	33	6	67	4.67	.50
7. There are adequate materials to support learning via the library's services.	1	11	0	0	1	11	5	56	2	22	3.78	1.20
8. The Information Call Center support useful information for your learning.	0	0	0	0	0	0	4	44	5	56	4.56	.53
9. You achieve your personal goals with the program.	0	0	0	0	0	0	2	22	7	78	4.78	.44
10. The cost of STOU Agricultural Extension and Development program is reasonable to your benefits.	0	0	0	0	1	11	3	33	5	56	4.44	.73

Note: 1.00 – 1.80 = Strong Disagree, 1.81 – 2.60 = Disagree, 2.61 – 3.40 = Neither Agree or Disagree, 3.41 – 4.20 = Agree, 4.21 – 5.00 = Strong Agree

Table 60 Frequency and Percentage of Level of Agreement by Instructors with the Curriculum for STOU Agricultural Extension Program ( $n = 10$ )

Program's curriculum	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. The instructional methodology is appropriate for the Curriculum.	0	0	0	0	2	20	8	80	0	0	3.80	4.2
2. The instructional material is current.	0	0	0	0	2	20	7	70	1	10	3.90	.57
3. The instructions are clearly written and easy to understand.	0	0	0	0	1	10	7	70	2	20	4.10	.57
4. There are adequate examinations to ascertain student progress.	0	0	0	0	4	40	4	40	2	20	3.80	.79
5 The examinations are comprehensive.	0	0	0	0	2	20	3	30	5	50	4.30	.82
6. The tutorial supports assist students in achieving the competence.	0	0	0	0	2	20	4	40	4	40	4.20	.79
7. There are adequate materials to support learning via the library's services.	0	0	1	10	3	30	4	40	2	20	3.70	.95
8. The Information Call Center support useful information for your learning.	0	0	2	20	4	40	2	20	2	20	3.40	1.08
9. You achieve your personal goals with the program.	0	0	0	0	2	20	7	70	1	10	3.90	.57
10. The cost of STOU Agricultural Extension and Development program is reasonable to your benefits.	0	0	0	0	1	10	4	40	5	50	4.40	.70

Note: 1.00 – 1.80 = Strong Disagree, 1.81 – 2.60 = Disagree, 2.61 – 3.40 = Neither Agree or Disagree, 3.41 – 4.20 = Agree, 4.21 – 5.00 = Strong Agree

Table 61 Frequency and Percentage of Level of Appropriateness by Undergraduate Students Toward Applicant Qualifications when Applying for STOU Agricultural Extension Program (Bachelor's Degree) ( $n = 251$ )

Applicant Qualifications	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Applicants must have completed lower secondary school or its equivalent, and have at least five years' subsequent work experience at the beginning of the academic semester in which they enroll.	18	7	13	5	77	31	74	30	69	27	3.65	1.15
2. Applicants must have completed lower secondary school or its equivalent, and be at least twenty five years of age at the beginning of the academic semester in which they enroll.	23	9	20	8	74	30	73	29	61	24	3.51	1.20
3. Applicants must have completed lower secondary school or its equivalent, and received a training certificate as approved by the university.	13	5	18	7	71	28	85	34	64	26	3.67	1.09
4. Applicants must have completed upper secondary school or its equivalent.	5	2	4	2	32	13	79	31	131	52	4.30	.90
5. Applicants must have completed a technical vocational certificate or its equivalent in agriculture or in any related fields.	7	3	7	3	31	12	76	30	130	52	4.25	.974
6. Applicants must have completed a higher vocational certificate or diploma or its equivalent in agriculture or in any related fields.	4	2	3	1	25	10	67	27	152	60	4.43	.84

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 62 Frequency and Percentage of Level of Appropriateness by Instructors Toward Applicant Qualifications when Applying for STOU Agricultural Extension Program (Bachelor's Degree) ( $n = 10$ )

Applicant Qualifications	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. Applicants must have completed lower secondary school or its equivalent, and have at least five years' subsequent work experience at the beginning of the academic semester in which they enroll.	0	0	2	20	1	10	4	40	3	30	3.80	1.14
2. Applicants must have completed lower secondary school or its equivalent, and be at least twenty five years of age at the beginning of the academic semester in which they enroll.	0	0	3	30	1	10	3	30	3	30	3.60	1.27
3. Applicants must have completed lower secondary school or its equivalent, and received a training certificate as approved by the university.	0	0	2	20	1	10	4	40	3	30	3.80	1.14
4. Applicants must have completed upper secondary school or its equivalent.	0	0	1	10	0	0	3	30	6	60	4.40	.97
5. Applicants must have completed a technical vocational certificate or its equivalent in agriculture or in any related fields.	0	0	0	0	0	0	4	40	6	60	4.60	.52
6. Applicants must have completed a higher vocational certificate or diploma or its equivalent in agriculture or in any related fields.	0	0	0	0	0	0	4	40	6	60	4.60	.52

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 63 Frequency and Percentage of Level of Appropriateness by Master's Degree Students Toward Applicant Qualifications when Applying for STOU Agricultural Extension Program (Master's Degree) ( $n = 104$ )

Applicant Qualifications	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Applicants must hold a bachelor's degree in agricultural extension, agricultural development, a field related to agriculture, or others from a high educational institution accredited by Office of higher Education Commission.	0	0	0	0	7	7	24	23	73	70	4.63	.61
2. Applicants have work experience related to agricultural extension, agricultural development or other agricultural fields at least one year.	0	0	2	2	6	6	29	28	67	64	4.55	.70
3. Applicants have a grade point average for the bachelor's degree of 2.50 or higher.	1	1	5	5	18	17	29	28	51	49	4.19	.96

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 64 Frequency and Percentage of Level of Appropriateness by Instructors Toward Applicant Qualifications when Applying for STOU Agricultural Extension Program (Master's Degree) ( $n = 10$ )

Applicant Qualifications	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. Applicants must hold a bachelor's degree in agricultural extension, agricultural development, a field related to agriculture, or others from a high educational institution accredited by Office of higher Education Commission.	0	0	0	0	0	0	4	40	6	60	4.60	.52
2. Applicants have work experience related to agricultural extension, agricultural development or other agricultural fields at least one year	0	0	0	0	0	0	4	40	6	60	4.60	.52
3. Applicants have a grade point average for the bachelor's degree of 2.50 or higher.	0	0	1	10	1	10	5	50	3	30	4.00	.94

*Note:* 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate



Table 65 Frequency and Percentage of Level of Appropriateness by Doctoral Students Toward Applicant Qualifications when Applying for STOU Agricultural Extension Program (Doctoral Degree) ( $n = 9$ )

Applicant Qualifications	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. Applicants must hold a master's degree in agricultural extension, agricultural development, a field related to agriculture, or others from a university or high educational institution accredited by Office of higher Education Commission.	0	0	0	0	0	0	3	33	6	67	4.67	.50
2. Applicants have work experience related to agricultural extension, agricultural development or other agricultural fields at least three years.	0	0	0	0	0	0	4	44	5	56	4.56	.53
3. Applicants have a grade point average for the master's degree of 3.50 or higher.	0	0	0	0	1	11	3	33	5	56	4.44	.73
4. Applicants pass English language test as specified by the School of Agriculture and Cooperatives and approved by the Graduate Committees of STOU, the test score should not be over two years until the date of application.	0	0	0	0	0	0	4	44	5	56	4.56	.53

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 66 Frequency and Percentage of Level of Appropriateness by Instructors Toward Applicant Qualifications when Applying for STOU Agricultural Extension Program (Doctoral Degree) ( $n = 10$ )

Applicant Qualifications	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. Applicants must hold a master's degree in agricultural extension, agricultural development, a field related to agriculture, or others from a university or high educational institution accredited by Office of higher Education Commission.	0	0	0	0	0	0	3	30	7	70	4.70	.48
2. Applicants have work experience related to agricultural extension, agricultural development or other agricultural fields at least three years.	0	0	0	0	1	10	6	60	3	30	4.20	.63
3. Applicants have a grade point average for the master's degree of 3.50 or higher.	0	0	0	0	1	10	3	30	6	60	4.50	.71
4. Applicants pass English language test as specified by the School of Agriculture and Cooperatives and approved by the Graduate Committees of STOU, the test score should not be over two years until the date of application.	0	0	1	10	1	10	3	30	5	50	4.20	1.03

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 67 Frequency and Percentage of Level of Appropriateness by Undergraduate Students Toward Program Objectives for STOU Agricultural Extension Program (Bachelor's Degree) ( $n = 251$ )

Objectives	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. To fulfill academic knowledge in agricultural extension for personal in government and private organization, farmers, and general public.	1	1	1	1	22	9	73	29	154	60	4.51	.71
2. To educate at bachelor's degree level in agricultural extension.	2	1	2	1	20	8	69	27	158	63	4.51	.71
3. To promote research in agricultural extension at community, region, and national levels.	0	0	3	1	20	8	56	22	172	69	4.58	.69

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 68 Frequency and Percentage of Level of Appropriateness by Instructors Toward Program Objectives for STOU Agricultural Extension Program (Bachelor's Degree) ( $n = 10$ )

Objectives	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. To fulfill academic knowledge in agricultural extension for personal in government and private organization, farmers, and general public.	0	0	0	0	1	10	2	20	7	70	4.60	.70
2. To educate at bachelor's degree level in agricultural extension.	0	0	0	0	1	10	3	30	6	60	4.50	.71
3. To promote research in agricultural extension at community, region, and national levels.	0	0	0	0	3	30	1	10	6	60	4.30	.95

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 69 Frequency and Percentage of Level of Appropriateness by Graduate Students Toward Program Objectives for STOU Agricultural Extension Program (Master's degree) ( $n = 104$ )

Objectives	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. To produce graduates with professional and academic knowledge and abilities in the field of agricultural extension and development.	0	0	0	0	6	6	19	18	79	76	4.70	.57
2. To produce graduates who can apply their knowledge of agricultural extension and development in accordance with economic, social, and environmental changes.	0	0	0	0	0	0	22	21	82	79	4.79	.41
3. To produce graduates with professional ethics and consciousness of their responsibility to society and the environment.	0	0	0	0	0	0	20	19	84	81	4.81	.40

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 70 Frequency and Percentage of Level of Appropriateness by Instructors Toward Program Objectives for STOU Agricultural Extension Program (Master's degree) ( $n = 10$ )

Objectives	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. To produce graduates with professional and academic knowledge and abilities in the field of agricultural extension and development.	0	0	0	0	1	10	1	10	8	80	4.70	.68
2. To produce graduates who can apply their knowledge of agricultural extension and development in accordance with economic, social, and environmental changes.	0	0	0	0	1	10	3	30	6	60	4.50	.71
3. To produce graduates with professional ethics and consciousness of their responsibility to society and the environment.	0	0	0	0	0	0	3	30	7	70	4.70	.43

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 71 Frequency and Percentage of Level of Appropriateness by Doctoral Students Toward Program Objectives for STOU Agricultural Extension Program (Doctoral degree) ( $n = 9$ )

Objectives	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. To produce graduates with the knowledge and abilities to do research, create innovations, and expand the body of knowledge about agricultural extension and development in breadth and depth.	0	0	0	0	0	0	4	44	5	56	4.56	.53
2. To produce graduates with the knowledge and abilities to apply concepts and theories of agricultural extension and development appropriately.	0	0	0	0	0	0	3	33	6	67	4.67	.50
3. To produce graduates with professional ethics and morals in the field of agricultural extension and development.	0	0	0	0	0	0	5	56	4	44	4.44	.53
4. To build up professionals and academics in the field of agricultural extension and development who can create innovations for government and private sector organizations and the agricultural society.	0	0	0	0	0	0	3	33	6	67	4.67	.50

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 72 Frequency and Percentage of Level of Appropriateness by Instructors Toward Program Objectives for STOU Agricultural Extension Program (Doctoral degree) ( $n = 10$ )

Objectives	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. To produce graduates with the knowledge and abilities to do research, create innovations, and expand the body of knowledge about agricultural extension and development in breadth and depth.	0	0	0	0	0	0	2	20	8	80	4.80	.42
2. To produce graduates with the knowledge and abilities to apply concepts and theories of agricultural extension and development appropriately.	0	0	0	0	0	0	2	20	8	80	4.80	.42
3. To produce graduates with professional ethics and morals in the field of agricultural extension and development.	0	0	0	0	0	0	4	40	6	60	4.60	.52
4. To build up professionals and academics in the field of agricultural extension and development who can create innovations for government and private sector organizations and the agricultural society.	0	0	0	0	0	0	5	50	5	50	4.50	.53

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate



Table 73 Frequency and Percentage of Level of Appropriateness by Undergraduate Students Toward Bachelor's Degree Program Structure ( $n = 251$ )

Program structure	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
10103 Life Skills	0	0	3	1	18	7	85	34	145	58	4.48	.68
10141 Science, Technology and Environment for live	0	0	4	2	25	10	73	29	149	59	4.46	.74
10151 Thai Studies	2	1	8	3	22	9	74	29	145	58	4.40	.84
10152 Thailand and the World Community	1	1	5	2	24	9	60	24	161	64	4.49	.78
90201 Farm management	0	0	8	3	23	9	72	29	148	59	4.43	.79
90204 Fundamentals of Agricultural Resources Management and Environment	0	0	4	2	21	8	81	32	145	58	4.46	.72
90303 Economic Crops	1	1	2	1	14	5	55	22	179	71	4.63	.67
90305 Animal Production	2	1	2	1	23	9	64	25	160	64	4.51	.76
91108 Fundamentals of Agricultural Extension	1	1	1	1	14	5	67	26	168	67	4.59	.65
91307 Agricultural Community Development	0	0	2	1	11	4	72	29	166	66	4.60	.61
91310 Principles of Administration in Agricultural Extension	0	0	3	1	11	4	70	28	167	67	4.60	.63
91311 Knowledge Management for Agricultural Extension	0	0	4	1	12	5	69	28	166	66	4.58	.66
91312 Integrated Agricultural System Management	1	1	4	1	13	5	77	31	156	62	4.53	.71
91349 Information and Communication Media in Agricultural Extension	1	1	0	0	13	5	68	27	169	67	4.61	.63
91350 Leadership, Human Relation and Psychology for farmers	1	1	0	0	13	5	56	22	181	72	4.66	.62
91413 Development of Group, Institution, and Organization in Agriculture	0	0	4	2	16	6	66	26	165	66	4.56	.69
91414 Research in Agricultural Extension	0	0	2	1	15	6	60	24	174	69	4.62	.64
91418 Professional Experience in Agricultural Extension	0	0	3	1	13	5	40	16	195	78	4.70	.62
94329 Fundamentals of Agribusiness	0	0	4	1	12	5	64	26	171	68	4.60	.66
10110 English for Communication	1	1	8	3	23	9	52	21	167	66	4.50	.82
10161 Thai for Communication	0	0	5	2	27	11	82	33	137	54	4.40	.76
90406 Soil, Water and Fertilizer	0	0	5	2	21	8	74	30	151	60	4.48	.73
91464 Ornamental Plants in Landscaping	1	1	2	1	36	14	93	37	119	47	4.30	.77
91465 Agro-tourism Management	1	1	2	1	24	9	73	29	151	60	4.48	.73
91466 Animal Production for Recreation and Economics	1	1	4	2	36	14	79	31	131	52	4.33	.81
93257 Introduction to crop pets	0	0	9	4	28	11	85	34	129	51	4.33	.81
93353 Crop Commodity Management	0	0	6	2	19	8	75	30	151	60	4.48	.74
93354 Feeds and feeding	1	1	5	2	28	11	88	35	129	51	4.35	.79
93456 Cereal and Forage Crop production Management	1	1	2	1	24	9	84	33	140	56	4.43	.73
93457 Industrial Crop Production Management	1	1	3	1	23	9	80	32	144	57	4.45	.74
93458 Flowering and Ornamental Plant Production Management	1	1	1	1	24	9	66	26	159	63	4.52	.72
93459 Fruit and Vegetable Production Management	0	0	2	1	18	7	59	24	172	68	4.60	.66

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 74 Frequency and Percentage of Level of Appropriateness by Instructors  
Toward Bachelor's Degree Program Structure ( $n = 10$ )

Program structure	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
10103 Life Skills	0	0	1	10	2	20	3	30	4	40	4.00	1.05
10141 Science, Technology and Environment for live	0	0	1	10	2	20	1	10	6	60	4.20	1.14
10151 Thai Studies	0	0	2	20	2	20	2	20	4	40	3.80	1.23
10152 Thailand and the World Community	0	0	0	0	2	20	3	30	5	50	4.30	.82
90201 Farm management	0	0	0	0	0	0	7	70	3	30	4.30	.48
90204 Fundamentals of Agricultural Resources Management and Environment	0	0	0	0	0	0	8	80	2	20	4.20	.42
90303 Economic Crops	0	0	0	0	3	30	4	40	3	30	4.00	.82
90305 Animal Production	0	0	0	0	2	20	6	60	2	20	4.00	.67
91108 Fundamentals of Agricultural Extension	0	0	0	0	0	0	4	40	6	60	4.60	.52
91307 Agricultural Community Development	0	0	0	0	0	0	4	40	6	60	4.60	.52
91310 Principles of Administration in Agricultural Extension	0	0	0	0	0	0	3	30	7	70	4.70	.48
91311 Knowledge Management for Agricultural Extension	0	0	0	0	0	0	3	30	7	70	4.70	.48
91312 Integrated Agricultural System Management	0	0	0	0	0	0	5	50	5	50	4.50	.53
91349 Information and Communication Media in Agricultural Extension	0	0	0	0	0	0	2	20	8	80	4.80	.42
91350 Leadership, Human Relation and Psychology for farmers	0	0	0	0	0	0	4	40	6	60	4.60	.52
91413 Development of Group, Institution, and Organization in Agriculture	0	0	0	0	0	0	4	40	6	60	4.60	.52
91414 Research in Agricultural Extension	0	0	0	0	0	0	3	30	7	70	4.70	.48
91418 Professional Experience in Agricultural Extension	0	0	0	0	0	0	3	30	7	70	4.70	.48
94329 Fundamentals of Agribusiness	0	0	0	0	0	0	5	50	5	50	4.50	.53
10110 English for Communication	0	0	0	0	0	0	4	40	6	60	4.60	.52
10161 Thai for Communication	0	0	0	0	1	10	6	60	3	30	4.20	.63
90406 Soil, Water and Fertilizer	0	0	0	0	2	20	8	80	0	0	3.80	.42
91464 Ornamental Plants in Landscaping	0	0	0	0	0	0	9	90	1	10	4.10	.32
91465 Agro-tourism Management	0	0	0	0	1	10	5	50	4	40	4.30	.68
91466 Animal Production for Recreation and Economics	0	0	0	0	4	40	6	60	0	0	3.60	.52
93257 Introduction to crop pets	0	0	0	0	2	20	8	80	0	0	3.80	.42
93353 Crop Commodity Management	0	0	0	0	1	10	9	90	0	0	3.90	.32
93354 Feeds and feeding	0	0	0	0	2	20	8	80	0	0	3.80	.42
93456 Cereal and Forage Crop production Management	0	0	0	0	1	10	2	20	7	70	3.60	.70
93457 Industrial Crop Production Management	0	0	1	10	2	20	7	70	0	0	3.60	.70
93458 Flowering and Ornamental Plant Production Management	0	0	1	10	0	0	9	90	0	0	3.80	.63
93459 Fruit and Vegetable Production Management	0	0	1	10	0	0	9	90	0	0	3.80	.63

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 75 Frequency and Percentage of Level of Appropriateness by Master's Degree Students Toward Master's Degree Program Structure ( $n = 104$ )

Program structure	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
91720 Agricultural Extension for Development	0	0	0	0	3	3	21	20	80	77	4.74	.50
91721 Thai Society and Management in Agricultural Extension and Development	0	0	1	1	11	11	26	25	66	63	4.51	.72
91722 International Agricultural Extension and Development	0	0	0	0	1	1	8	8	95	91	4.90	.33
91723 Research and Statistics for Agricultural Extension and Development	0	0	0	0	6	6	19	18	79	76	4.70	.57
91724 Resource Management for Agricultural Extension and Development	0	0	1	1	6	6	24	23	73	70	4.62	.64
91725 Communication in Agricultural Extension and Development	0	0	0	0	2	2	17	16	85	82	4.80	.45
91726 Organization for Agricultural Extension and Development	0	0	0	0	6	6	31	30	67	64	4.59	.60
91794 Independent Study	3	3	2	2	13	12	33	32	53	51	4.26	.96
91795 Thesis	0	0	0	0	2	2	23	22	79	76	4.74	.48
91796 Graduate Professional Experience in Agricultural Extension and Development	0	0	1	1	5	5	20	19	78	75	4.68	.61

*Note:* 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 76 Frequency and Percentage of Level of Appropriateness by Instructors  
Toward Master's Degree Program Structure ( $n = 10$ )

Program structure	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
91720 Agricultural Extension for Development	0	0	0	0	0	0	5	50	5	50	4.50	.53
91721 Thai Society and Management in Agricultural Extension and Development	0	0	0	0	1	10	6	60	3	30	4.20	.63
91722 International Agricultural Extension and Development	0	0	0	0	0	0	2	20	8	80	4.80	.42
91723 Research and Statistics for Agricultural Extension and Development	0	0	0	0	0	0	5	50	5	50	4.50	.53
91724 Resource Management for Agricultural Extension and Development	0	0	0	0	0	0	6	60	4	40	4.40	.52
91725 Communication in Agricultural Extension and Development	0	0	0	0	0	0	5	50	5	50	4.50	.53
91726 Organization for Agricultural Extension and Development	0	0	0	0	0	0	7	70	3	30	4.30	.48
91794 Independent Study	0	0	1	10	2	20	6	60	1	10	3.70	.82
91795 Thesis	0	0	0	0	1	10	2	20	7	70	4.60	.70
91796 Graduate Professional Experience in Agricultural Extension and Development	0	0	0	0	1	10	3	30	6	60	4.50	.71

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither  
Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 77 Frequency and Percentage of Level of Appropriateness by Doctoral Students Toward Doctoral Degree Program Structure ( $n = 9$ )

Program structure	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
91901 Advanced Agricultural Extension and Development	0	0	0	0	0	0	3	33	6	67	4.67	.50
91902 Advanced Research in Agricultural Extension and Development	0	0	0	0	1	11	3	33	5	56	4.44	.73
91903 Advanced Statistics in Agricultural Extension and Development Research	1	11	0	0	0	0	3	33	5	56	4.22	1.30
91904 Advanced Seminar in Agricultural Extension and Development	0	0	0	0	0	0	3	33	6	67	4.67	.50
91908 Dissertation	0	0	0	0	1	11	2	22	6	67	4.56	.73
91909 Doctoral Professional Experience in Agricultural Extension and Development	0	0	0	0	2	22	4	45	3	33	4.11	.78

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 78 Frequency and Percentage of Level of Appropriateness by Instructors  
Toward Doctoral Degree Program Structure ( $n = 10$ )

Program structure	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
91901 Advanced Agricultural Extension and Development	0	0	0	0	0	0	3	30	7	70	4.70	.48
91902 Advanced Research in Agricultural Extension and Development	0	0	0	0	0	0	4	40	6	60	4.60	.52
91903 Advanced Statistics in Agricultural Extension and Development Research	0	0	0	0	0	0	4	40	6	60	4.60	.52
91904 Advanced Seminar in Agricultural Extension and Development	0	0	0	0	1	10	3	30	6	60	4.50	.71
91908 Dissertation	0	0	0	0	1	10	2	20	7	70	4.60	.70
91909 Doctoral Professional Experience in Agricultural Extension and Development	0	0	0	0	0	0	4	40	6	60	4.60	.52

Note: 1.00 – 1.80 = Absolutely Inappropriate, 1.81 – 2.60 = Inappropriate, 2.61 – 3.40 = Neither Appropriate or Inappropriate, 3.41 – 4.20 = Appropriate, 4.21 – 5.00 = Absolutely Appropriate

Table 79 Frequency and Percentage of Level of Adequacy about Components of the STOU Learning System for the STOU Agricultural Extension Program when Participating in ASEAN Community by Undergraduate Student ( $n = 251$ )

Program structure	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. The main teaching materials are print-based packages that mailed to students.	3	1	14	6	27	11	95	38	112	44	4.19	.92
2. Textbooks	3	1	6	2	21	8	105	42	116	46	4.29	.82
3. Workbooks	0	0	8	3	24	10	111	44	108	43	4.27	.76
4. Multimedia CDs contain audiovisual study aids	2	1	13	5	48	19	120	48	68	27	3.95	.86
5. e-Learning on the STOU website	2	1	8	3	52	21	97	38	92	37	4.07	.88
6. Radio broadcasts	4	1	17	7	82	33	100	40	48	19	3.68	.91
7. TV broadcasts	3	1	13	5	70	28	96	38	69	28	3.86	.92
8. Media on demand consist a past radio and TV programs	2	1	13	5	63	25	107	43	66	26	3.88	.86
9. Webcasts	1	1	12	5	49	19	85	34	104	41	4.11	.91
10. Face to face tutorial sessions	4	1	25	10	65	26	80	32	77	31	3.80	1.04
11. e-Tutorial sessions	1	1	11	4	41	16	92	37	106	42	4.16	.88
12. Satellite television broadcasts	4	2	11	4	51	20	92	37	93	37	4.03	.95

Note: 1.00 – 1.80 = Very Inadequate, 1.81 – 2.60 = Inadequate, 2.61 – 3.40 = Uncertain, 3.41 – 4.20 = Adequate, 4.21 – 5.00 = More than Adequate

Table 80 Frequency and Percentage of Level of Adequacy about Components of the STOU Learning System for the STOU Agricultural Extension Program when Participating in ASEAN Community by Master's Degree Student ( $n = 104$ )

Program structure	1		2		3		4		5		<i>M</i>	<i>SD</i>
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
1. The main teaching materials are print-based packages that mailed to students.	3	3	12	12	15	14	43	41	31	30	3.84	1.07
2. Textbooks	1	1	8	8	15	14	51	49	29	28	3.95	.91
3. Workbooks	0	0	5	5	23	22	48	46	28	27	3.95	.83
4. Multimedia CDs contain audiovisual study aids	2	2	4	4	30	29	43	41	25	24	3.82	.91
5. e-Learning on the STOU website	0	0	3	3	7	7	40	38	54	52	4.39	.74
6. Radio broadcasts	5	5	17	16	48	46	29	28	5	5	3.12	.91
7. TV broadcasts	4	4	8	8	47	45	35	34	10	9	3.38	.91
8. Media on demand consist a past radio and TV programs	2	2	6	6	49	47	35	34	12	11	3.47	.85
9. Webcasts	0	0	5	5	30	29	41	39	28	27	3.88	.86
10. Face to face tutorial sessions	1	1	1	1	6	6	34	33	62	59	4.49	.74
11. e-Tutorial sessions	0	0	1	1	9	9	49	47	45	43	4.33	.68
12. Satellite television broadcasts	0	0	5	5	38	37	42	40	19	18	3.72	.82

Note: 1.00 – 1.80 = Very Inadequate, 1.81 – 2.60 = Inadequate, 2.61 – 3.40 = Uncertain, 3.41 – 4.20 = Adequate, 4.21 – 5.00 = More than Adequate



Table 81 Frequency and Percentage of Level of Adequacy about Components of the STOU Learning System for the STOU Agricultural Extension Program when Participating in ASEAN Community by Doctoral Student ( $n = 9$ )

Program structure	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. The main teaching materials are print-based packages that mailed to students.	1	12	0	0	2	22	3	33	3	33	3.78	1.30
2. Textbooks	0	0	0	0	2	22	3	33	4	45	4.22	.83
3. Workbooks	0	0	0	0	0	0	6	67	3	33	4.33	.50
4. Multimedia CDs contain audiovisual study aids	1	11	0	0	2	22	3	33	3	33	3.78	1.30
5. e-Learning on the STOU website	0	0	1	11	1	11	2	22	5	56	4.22	1.09
6. Radio broadcasts	0	0	1	11	5	56	1	11	2	22	3.44	1.01
7. TV broadcasts	0	0	1	11	2	22	2	22	4	45	4.00	1.12
8. Media on demand consist a past radio and TV programs	0	0	1	12	3	33	3	33	2	22	3.67	1.00
9. Webcasts	0	0	1	11	1	11	3	33	4	45	4.11	1.05
10. Face to face tutorial sessions	0	0	1	11	0	0	3	33	5	56	4.33	1.00
11. e-Tutorial sessions	0	0	1	12	0	0	4	44	4	44	4.22	.97
12. Satellite television broadcasts	0	0	1	12	3	33	2	22	3	33	3.78	1.09

Note: 1.00 – 1.80 = Very Inadequate, 1.81 – 2.60 = Inadequate, 2.61 – 3.40 = Uncertain, 3.41 – 4.20 = Adequate, 4.21 – 5.00 = More than Adequate

Table 82 Frequency and Percentage of Level of Adequacy about Components of the STOU Learning System for the STOU Agricultural Extension Program when Participating in ASEAN Community by Instructors ( $n = 10$ )

Program structure	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. The main teaching materials are print-based packages that mailed to students.	0	0	2	20	4	40	4	40	0	0	3.20	.79
2. Textbooks	0	0	2	20	3	30	4	40	1	10	3.40	.97
3. Workbooks	1	10	1	10	4	40	4	40	0	0	3.10	.99
4. Multimedia CDs contain audiovisual study aids	0	0	1	10	8	80	1	10	0	0	3.00	.47
5. e-Learning on the STOU website	0	0	0	0	6	60	4	40	0	0	3.40	.52
6. Radio broadcasts	0	0	3	30	6	60	1	10	0	0	2.80	.63
7. TV broadcasts	0	0	1	10	5	50	4	40	0	0	3.30	.68
8. Media on demand consist a past radio and TV programs	0	0	2	20	5	50	2	20	1	10	3.20	.92
9. Webcasts	0	0	1	10	4	40	4	40	1	10	3.50	.85
10. Face to face tutorial sessions	0	0	1	10	4	40	4	40	1	10	3.50	.85
11. e-Tutorial sessions	0	0	1	10	3	30	5	50	1	10	3.60	.84
12. Satellite television broadcasts	0	0	3	30	2	20	3	30	2	20	3.40	1.17

Note: 1.00 – 1.80 = Very Inadequate, 1.81 – 2.60 = Inadequate, 2.61 – 3.40 = Uncertain, 3.41 – 4.20 = Adequate, 4.21 – 5.00 = More than Adequate

Table 83 Frequency and Percentage of Level of Adequacy about Components of the STOU Educational Services for the STOU Agricultural Extension Program when Participating in ASEAN Community by Undergraduate Students ( $n = 251$ )

STOU Educational Services	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. Regional Distance Education Centers	5	2	16	6	57	23	104	41	69	28	3.86	.96
2. Provincial Study Centers in the main secondary school of every province	3	1	13	5	55	22	101	40	79	32	3.96	.92
3. STOU Corners in all provincial libraries	6	2	14	6	73	29	99	39	59	24	3.76	.95
4. Special Study Centers that work with government agencies.	3	1	19	8	83	33	88	35	58	23	3.71	.95
5. Library and Information Services	2	1	19	8	66	26	102	40	62	25	3.81	.92
6. Guidance for prospective Students	2	1	21	8	60	24	102	41	66	26	3.83	.94
7. Student Activities such as student clubs	2	1	24	10	66	26	91	36	68	27	3.79	.97
8. Practical Experience Programs	2	1	19	8	49	19	94	37	87	35	3.98	.96
9. Professional Experience Activities	1	1	7	3	28	11	96	38	119	47	4.29	.80
10. Examination Centers that has set up at least one examination center in each province	2	1	15	6	47	19	88	35	99	39	4.06	.94
11. Examination Schedules	1	1	5	2	37	15	108	43	100	40	4.20	.79
12. Examination Results that sent to students approximately 30-45 days after each examination	13	5	9	4	49	19	118	47	62	25	3.82	1.01
13. Grading System	1	1	6	2	33	13	92	37	119	47	4.28	.81

Note: 1.00 – 1.80 = Very Inadequate, 1.81 – 2.60 = Inadequate, 2.61 – 3.40 = Uncertain, 3.41 – 4.20 = Adequate, 4.21 – 5.00 = More than Adequate

Table 84 Frequency and Percentage of Level of Adequacy about Components of the STOU Educational Services for the STOU Agricultural Extension Program when Participating in ASEAN Community by Master's Degree Students ( $n = 104$ )

STOU Educational Services	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. Regional Distance Education Centers	0	0	10	10	23	22	48	46	23	22	3.81	.89
2. Provincial Study Centers in the main secondary school of every province	4	4	7	7	25	24	45	43	23	22	3.73	1.01
3. STOU Corners in all provincial libraries	4	4	16	15	43	41	26	25	15	15	3.31	1.03
4. Special Study Centers that work with government agencies.	1	1	15	14	54	52	23	22	11	11	3.27	.87
5. Library and Information Services	1	1	9	9	35	34	48	46	11	10	3.57	.83
6. Guidance for prospective Students	1	1	12	12	32	31	46	44	13	12	3.56	.89
7. Student Activities such as student clubs	2	2	11	11	43	41	39	37	9	9	3.40	.87
8. Practical Experience Programs	1	1	7	7	35	34	46	44	15	14	3.64	.85
9. Professional Experience Activities	1	1	2	2	25	24	53	51	23	22	3.91	.79
10. Examination Centers that has set up at least one examination center in each province	3	3	0	0	12	12	41	39	48	46	4.26	.88
11. Examination Schedules	0	0	1	1	8	8	48	46	47	45	4.36	.67
12. Examination Results that sent to students approximately 30-45 days after each examination	0	0	1	1	11	11	45	43	47	45	4.33	.70
13. Grading System	0	0	0	0	8	8	44	42	52	50	4.42	.63

Note: 1.00 – 1.80 = Very Inadequate, 1.81 – 2.60 = Inadequate, 2.61 – 3.40 = Uncertain, 3.41 – 4.20 = Adequate, 4.21 – 5.00 = More than Adequate

Table 85 Frequency and Percentage of Level of Adequacy about Components of the STOU Educational Services for the STOU Agricultural Extension Program when Participating in ASEAN Community by Doctoral Students ( $n = 9$ )

STOU Educational Services	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. Regional Distance Education Centers	0	0	0	0	2	22	2	22	5	56	4.33	.87
2. Provincial Study Centers in the main secondary school of every province	0	0	0	0	2	22	3	33	4	45	4.22	.83
3. STOU Corners in all provincial libraries	1	11	0	0	4	45	1	11	3	33	3.56	1.33
4. Special Study Centers that work with government agencies.	0	0	0	0	4	45	2	22	3	33	3.89	.93
5. Library and Information Services	0	0	0	0	3	33	3	33	3	34	4.00	.87
6. Guidance for prospective Students	0	0	0	0	3	33	3	33	3	34	4.00	.87
7. Student Activities such as student clubs	1	11	0	0	2	22	4	45	2	22	3.67	1.23
8. Practical Experience Programs	1	11	0	0	1	11	4	45	3	33	3.89	1.27
9. Professional Experience Activities	0	0	0	0	1	12	4	44	4	44	4.33	.71
10. Examination Centers that has set up at least one examination center in each province	0	0	0	0	1	11	3	33	5	56	4.44	.73
11. Examination Schedules	0	0	0	0	1	11	3	33	5	56	4.44	.73
12. Examination Results that sent to students approximately 30-45 days after each examination	0	0	0	0	1	12	4	44	4	44	4.33	.71
13. Grading System	0	0	0	0	1	11	2	22	6	67	4.56	.73

Note: 1.00 – 1.80 = Very Inadequate, 1.81 – 2.60 = Inadequate, 2.61 – 3.40 = Uncertain, 3.41 – 4.20 = Adequate, 4.21 – 5.00 = More than Adequate

Table 86 Frequency and Percentage of Level of Adequacy about Components of the STOU Educational Services for the STOU Agricultural Extension Program when Participating in ASEAN Community by Instructors ( $n = 10$ )

STOU Educational Services	1		2		3		4		5		M	SD
	f	%	f	%	f	%	f	%	f	%		
1. Regional Distance Education Centers	1	10	0	0	7	70	2	20	0	0	3.00	.82
2. Provincial Study Centers in the main secondary school of every province	2	20	0	0	7	70	1	10	0	0	2.70	.95
3. STOU Corners in all provincial libraries	2	20	2	20	6	60	0	0	0	0	2.40	.84
4. Special Study Centers that work with government agencies.	2	20	1	10	7	70	0	0	0	0	2.50	.85
5. Library and Information Services	1	10	1	10	7	70	1	10	0	0	2.80	.79
6. Guidance for prospective Students	1	10	1	10	6	60	2	20	0	0	2.90	.88
7. Student Activities such as student clubs	1	10	2	20	5	50	2	20	0	0	2.80	.92
8. Practical Experience Programs	2	20	2	20	4	40	2	20	0	0	2.60	1.08
9. Professional Experience Activities	0	0	3	30	2	20	4	40	1	10	3.30	1.06
10. Examination Centers that has set up at least one examination center in each province	0	0	2	20	2	20	6	60	0	0	3.40	.84
11. Examination Schedules	0	0	1	10	1	10	7	70	1	10	3.80	.79
12. Examination Results that sent to students approximately 30-45 days after each examination	0	0	0	0	2	20	8	80	0	0	3.80	.42
13. Grading System	0	0	0	0	1	10	8	80	1	10	4.00	.47

Note: 1.00 – 1.80 = Very Inadequate, 1.81 – 2.60 = Inadequate, 2.61 – 3.40 = Uncertain, 3.41 – 4.20 = Adequate, 4.21 – 5.00 = More than Adequate