



Development of Distance-Learning Curriculum Model on Food Safety and Organic Agriculture Developed from the Sufficiency Economy Philosophy for the ASEAN Community

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Abstract The Distance-Learning Model on Food Safety and Organic Agriculture Developed from the Sufficiency Economy Philosophy for the ASEAN Community was designed by selecting relevant topical video recordings and translating the contents into nine languages mostly used in the ASEAN region. Which used to educate the farmers regarding food safety, supply chain, and organic farming, and to promote the implementation of sufficiency economy into the ASEAN region. The aims of this research were: 1) to develop a distance-learning curriculum model on food safety and organic agriculture following the sufficiency economy philosophy for the ASEAN community, 2) to develop learning materials to accompany the program, and 3) to evaluate the benefits and success of the learning program. Research, development and evaluation were all administered. Both qualitative and quantitative data were collected. Seminars were organized to garner information from 10 qualified experts in model development processes and procedures. A questionnaire survey was used to gather data from 70 participants of different nationalities to evaluate the learning program. Quantitative data were analyzed using descriptive statistics and qualitative data were evaluated using content analysis. The findings were as follows: 1) one remarkable feature of a distance-learning curriculum was the use of video recordings as a major tool in the learning process, and learning by doing through group study by people living in adjacent communities, 2) the learning materials accompanying the program were available in nine ASEAN languages (Thai, Lao, Cambodian, Vietnamese, Malay, Indonesian, Burmese, Chinese and English), and consisted of: (i) instructional videos covering 15 subjects including Sufficiency Economy Philosophy, Paradigm Shifts, Food Security, The Way of Organic Farming, Household Budget and Information Management for Planning, Knowledge Management, Soil and Water Management, Genetics Management, Alternative Energy, Safety and Organic Food Production, Food Safety Assurance, Packaging Design, Group Management, Distribution Management, and Edutainment, (ii) curriculum documents, handbooks and a list of selected media, and 3) the designated learning program was perceived to be of the “highest” value. The learning materials were rated “highly” appropriate but with the “highest” usefulness, and the designated learning program was perceived by the group to be at a “high” level.

Keywords model development of distance-learning curriculum, distance-learning curriculum, food safety, organic agriculture, sufficiency economy philosophy, ASEAN community

INTRODUCTION

Data retrieved from the AEC Information Center (2015) indicated that most people in the ASEAN region earn their living through agriculture. Gardening, farming, and fishery are the main occupations of Malaysians while plantation, forestry, fishery, and animal farming are followed among Indonesians. Eighty percent of Vietnamese people earn their livelihood from agriculture. In Laos, Myanmar, and the Philippines agriculture is also the main occupation. However, workers in the agricultural sector are facing health problems and marketing constraints resulting from inappropriate production methods involving the overuse of pesticides. The chemical contamination is transmitted from the crops to the farm workers and thence to the consumers. To resolve these problems, several countries have implemented national policies to promote safety awareness in agriculture. In Thailand, the government has attempted to control pesticide imports and the use of non-standard paraquats. The system of chemical substance registration has been revised, and many hazardous substances are now banned or have restricted use in several countries. The Thai Government has also controlled advertising and selling which contravenes the ethically responsible dictates of the Food and Agriculture Organization. The use of organic substances has been promoted to improve the safety of agricultural producers and consumers. However, unsafe crop practices are still widespread (Office of Agricultural Economics, 2012).

Government sectors have implemented policies promoting learning to farmers; however, the curriculum management seemed to fulfill the aims of organizations rather than the needs of learners. In other words, the learning lacked integration regarding the contents and management. The curriculum was often organized for short time periods of 3 - 4 days and this was not sufficient for the learners to achieve meaningful results. In addition, there was no communication between the learners, or networking to develop and sustain change within the community and society.

Therefore, Sukhothai Thammathirat Open University (STOU) initiated the Center of Distance-Learning for Sufficiency Economy (2010) to provide community services by inculcating the Sufficiency Economy Philosophy or SEP into real-life practices. SEP stresses the importance of human development at all levels and value the need to strengthen community's capacity to assure a balanced way of life and resilience, with the respect for environment. In 2014, the model of distance-learning on harmless and organic agricultural practices was developed following the sufficiency economy ideals. The management at the center focuses specifically on learning, allowing learners to study by themselves. Furthermore, the distance-learning can be accessed by learners with diverse backgrounds. The learning program is safe and can be used to increase learner knowledge regardless of their previous educational levels (Keowan et al., 2015).

STOU realized that agriculture is the spine of the ASEAN region, and its people desperately want to learn from each other to prepare for being a part of the ASEAN community and cooperate regarding agricultural safety. The university, therefore initiated The Distance-Learning Model on Food Safety and Organic Agriculture Developed from the Sufficiency Economy Philosophy for the ASEAN Community by selecting relevant topical video recordings and translating the contents into nine languages mostly used in the ASEAN region: Thai, Lao, Cambodian, Vietnamese, Indonesian, Malay, Burmese, Chinese, and English. Moreover, the distance-learning model will be used to educate Thai farmers and also farmers in neighboring countries with the knowledge and efficiency of Thailand regarding food safety, supply, and organic farming, and to promote the implementation of economy sufficiency into the ASEAN region.

OBJECTIVES

The purposes of this research were as follows: 1) to develop a distance-learning curriculum model on food safety and organic agriculture, following the sufficiency economy philosophy for the

ASEAN community, 2) to develop learning materials to accompany the program, and 3) to evaluate the benefits and success of the learning program.

METHODOLOGY

Research, curriculum development, and curriculum evaluation were utilized for this research project. Both quantitative and qualitative data were collected throughout three stages as follows:

1. Curricular Model Development Processes

- (1) collect, analyze, and synthesize the body of knowledge,
- (2) design the core structure of the curriculum, courses, and learning management, and
- (3) organize seminars to collate the information on model development procedure from 10 qualified experts.

2. Learning Materials Development Processes Accompanying the Learning Program

- (1) produce and translate the contents of the video recordings into nine languages with 15 topics available for each language, and
- (2) produce a set of curricular learning documents in each target language consisting of the curriculum papers, teaching handbooks for management, and a list of the selected media.

3. Curricular Evaluation Processes

Data were collected from 70 research participants from diverse countries to evaluate the achievements of the designed curriculum model of the Distance-Learning Project on Food Safety and Organic Agriculture Developed from the Sufficiency Economy Philosophy for the ASEAN Community. A questionnaire was circulated and a seminar was organized for 10 qualified experts to assess the learning achievements of the curriculum. The experts aired their opinions on the working processes both within and outside the countries regarding production procedure and curricular development.

The quantitative data was analyzed using percentage, mean, and standard deviation. Qualitative data was assessed using content analysis.

RESULTS AND DISCUSSION

The model development of the distance-learning curriculum on food safety and organic agriculture developed from the sufficiency economy philosophy was developed base on the notions of various scholars. For instance, the ideas of Saylor, Alexander and Lewis (1981: 28-29) were as follows: (1) model development should initially determine goals, objectives, and domains of the curriculum, (2) curriculum design, (3) curriculum implementation, and (4) curriculum evaluation. The notions of Chompoolong (2002: 53) on local curricular development consisted of (1) analyze basic information, (2) create a curricular draft, (3) examine the curricular draft, (4) implement curriculum sampling, (5) evaluate the curriculum sampling, and (6) improve and revise the curriculum. The notions of Wongyai (1990: 19) on integrated curriculum development consisted of (1) drafting a curriculum, (2) curriculum implementation, and (3) curriculum evaluation. This research followed three stages of model curriculum development as follows.

1. Model Development Processes of a Distance-Learning Curriculum on Food Safety and Organic Agriculture Developed from the Sufficiency Economy Philosophy

1.1 Analyze and synthesize the body of knowledge: The body of knowledge was analyzed and synthesized by organizing a meeting of the curriculum development committee and experts to define and determine the aspects of the curriculum. The model development of this distance- learning curriculum on food safety and organic agriculture developed from the sufficiency economy philosophy was different from other typical formal educational programs. The differences were as follows.

1) *Videos were used as a major tool* in creating the learning process which proceeded within budget and achieved high levels of learning advancement. This success was because learners were able to learn from the real-life experiences of individual models, groups, communities, and networks regarding their agricultural practices. The villagers did not have to spend time on traveling, with the flexibility of managing and adapting their own learning schedules to their individual lifestyles and occupations. In addition, the villagers were able to learn continually and gained knowledge in packing. This was important and necessary for agriculturalists to solve their problems following the philosophy and ideas of management, objectives, learning standards, and learning systems. Time management for learning, evaluation, and achievement relied on the qualifications of both learners and learning facilitators.

2) *Focus on self-learning* concentrated on gathering local people together to share their problems on individual, family, and community scales to discover solutions through doing projects. These learning practices allowed learners to learn with happiness.

1.2 Design and draft the curriculum: The curricular structure and implementation of the learning process were achieved by organizing meetings between the local committees and the experts. Teaching documents were created. The first two documents created were (1) curriculum papers comprising details such as curricular name, certificate name, responsible organization, philosophy and notions in the learning process implementation, learning schedule, learning system, learning time allotment, evaluation of learning achievement, learning facilitators, places and learning materials, resources and budgets, expectation from the curriculum, and learning curriculum, and (2) a handbook for learning management and a list of the selected media included in the learning system and learning allotment, evaluation and aims of learning, places and learning materials, learning facilitators, roles of learning facilitators, implementation of learning facilitators, learning management plans, plans of group seminars, memos of learning facilitators, facilitator's opinions on the process of learning, and a list of selected media and evaluation of curricular achievements.

1.3 Organize a seminar for learning model development: A seminar for learning model development was organized with the committees and the 10 experts. Based on the meeting, the draft curriculum was approved together with 15 subjects including Sufficiency Economy Philosophy, Paradigm Shifts, Food Security, The Way of Organic Farming, Household Budget and Information Management for Planning, Knowledge Management, Soil and Water Management, Genetics Management, Alternative Energy, Safety and Organic Food Production, Food Safety Assurance, Packaging Design, Group Management, Distribution Management, and Edutainment.

2. Learning Materials Development Accompanying the Learning Program

The curriculum development committee created learning materials comprising (1) instructional videos covering the 15 subjects and video recording for learning orientation of the curriculum, and (2) curricular documents including curricular papers, handbooks for teaching management, and a list of selected educational media. These curricular documents were originally written in Thai and later translated by the native language experts into the nine languages Thai, Lao, Cambodian, Vietnamese, Malay, Indonesian, Burmese, Chinese, and English.

3. Curricular Evaluation

Once the learning materials were created in each target language, the committee administered the materials to 70 participants and then evaluated the curriculum of food safety and organic agriculture developed from the sufficiency economy philosophy for the ASEAN community. For of the research

participants, 62.9 percent were male with average age 35.91 years. The participants evaluated the curricular structure in the following areas.

3.1 The appropriateness of the designed curriculum: The participants perceived that the curriculum was at the highest appropriate level (mean = 4.28).

3.2 The appropriateness of the learning materials: The participants perceived that the designed learning materials were at the high appropriate level (mean = 4.24).

3.3 The usefulness of the learning materials: The participants rated the usefulness of the designed materials at the highest level (mean= 4.24).

3.4 The satisfaction of students toward learning through the designed curriculum: The participants were satisfied with the learning through the designed curriculum as a group at a high level (mean= 3.64).

CONCLUSION

The process of model development of distance-learning curriculum on food safety and organic agriculture for the ASEAN community followed three stages as follows: **(i) curricular model development**, including the analysis procedure, synthesize the body of knowledge, design and draft the curriculum, and organize a meeting to develop the curricular model, **(ii) learning materials development accompanying the learning program**, the committee developed the learning materials into nine languages, and **(iii) curricular evaluation**, the designed curriculum was administered to the participants from the determined countries. They perceived that the designated learning program was very highly appropriate and highly useful. They were satisfied with the learning procedure during the designated learning program as a group at a high level.

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