

The Development of Learning Activities Using the Integrated Teaching Techniques with 5E Inquiry Approach and Social Media on Agricultural Product Management for Grade 8 Students

Areerat Buaban¹ and Sutthiporn Boonsong^{2*}

¹Nongri Prachanimit School, Bo Phloi District, Kanchanaburi Province, Thailand

²Faculty of Technical Education, Rajamangala University of Technology
Thanyaburi, Thailand

¹areerat_b@mail.rmutt.ac.th, ^{2*}sutthiporn_b@rmutt.ac.th

Abstract

The purposes of this research were 1) to develop and determine the efficiency of learning activities using the integrated teaching techniques of 5E Inquiry Approach and social media, 2) to study working skills of Grade 8th students who study with the developed learning activities using the integrated teaching techniques of 5E Inquiry Approach and social media, and 3) to study students' attitude towards the developed learning activities using the integrated teaching techniques of 5E Inquiry Approach and social media on "Agricultural Product Management". The sample of this research was 18 for 8th grade students at Nongri Prachanimit School, in academic year 2019. The sample was selected based on a purposive sampling. The research instruments were learning activity model using integrated technique of 5E Inquiry Approach and social media, 2) students' working skill assessment scale, and 3) student attitude questionnaire. Data were analyzed using the efficiency (E_1 / E_2), statistics, including mean, standard deviation and t-test for dependent sample. The results of this research indicated that 1) the efficiency of the integrated teaching technique of 5E Inquiry Approach and social media was 80.28/80.20, which met the efficiency criteria of 80/80, 2) the working skill of Grade 8 students after taught with the integrated teaching technique of 5E Inquiry Approach and social media was at a high level, 3) after taught with the developed learning activities using the integrated teaching technique of 5E Inquiry Approach and social media on Agricultural Product Management students' attitude score was higher than before study with a statistical significance level of 0.01.

Keywords: 5E inquiry approach, social media, agricultural product management

1. Introduction

Education in the 4.0 era is to respond to the new era. The educational model will change. In a manner that encourages collaboration on the cyber by using the capabilities of the physical linking system with the cyber-equipped smart devices, such as smart phones, tablets, tablets, etc., help in searching and learning by using modern tools to connect things together. Including being able to learn things on their own, challenging, creating new knowledge expanding prior knowledge think and apply knowledge to benefit. Therefore, teaching and learning in the 4.0 era must focus on changing teaching methods, not just knowledge and memorization. But, turned to focus on building skills in learning and adjusting students to be able learn for life learners use technology in self-learning encourage learners to think and dare to be wrong. And dare to create works that are tangible with educational skills that focus on doing, and do it and create creative output in a way that can keep up and move forward with the world wisely [1].

Internet-based learning is another form of learning that is consistent with technological evolution. Nowadays, internet services such as social network are very popular. From the statistics of online social usage in Thailand from the Electronic Transactions

Development Agency (Public Organization) or ETDA surveyed internet user behavior in 2017, dividing users into 4 groups: Gen X (35-50 years), Gen Y (15-34 years), Gen Z (less than 15 Year) and Baby Boomer (51 years and over) found that the results of the survey of internet users in Thailand in 2018 found that Thai people use the internet for an average of 10 hours 5 minutes per day, with Gen Y being the group that uses the internet the most. Being the 4th year due to Change of life into more and more digital age the most popular activity of internet users number 1 is Social Network. According to the above data, the use of Social Network (Social Network) is mostly found among the students. Therefore, if we apply social media to education, students will be able to access learning anytime, anywhere [2].

Inquiry Approach teaching and learning is another way to teach students to think and to seek knowledge. In order to find the answer or conclusion manually in which the teacher facilitates learning in various areas for the learners Such as in the search for knowledge sources data study, analysis, data summarization discussions, academic arguments, and working together with others [3]. In which, the search-based teaching methodology has 5 steps to organize the activities as follows: 1) The interest-building process is the introduction of a stimulating lesson, 2) The survey and research process is for the learners to use the information provided together until the students have problems and design the study by themselves, 3) The process of explaining and the conclusion is the use of the collected data for discussion to summarize the results of the survey, 4) The Knowledge Expansion Step is an additional explanation for further learning and its use, and 5) The Assessment Stage is an assessment of learners' self-learning about what should be improved. In order to be applied in the future and will create a new learning cycle [4].

From the study of the solutions to the teaching and learning problems in smallest and medium sized schools located in the rural area, there is an environment and context of the community to be an agricultural society. In providing education in line with society, namely education in agriculture by organizing agricultural teaching and learning, it is necessary for students to learn by doing in real life. In order to make students' knowledge, skills and experience can apply knowledge to use or use in agriculture. But now, the teaching and learning of agriculture in the agricultural extension system in schools not as successful as expected due to the teaching of knowledge to understand the content in the book cannot make students think that can be done and most students have negative values and attitudes towards agriculture because it is considered to be hard work and therefore is not very interested in education, therefore, education management is necessary to provide the learners with the knowledge and skills to be correct according to the principles and in accordance with the context of the community. To provide learners have local knowledge, professional skills, and to live in society [5].

Researcher as agricultural teacher can saw the importance of the teaching and learning of agriculture which focuses on providing students with professional skills along with technological skills Therefore, there is an idea to develop learning activities on agricultural product management using a 5E search process together with the use of social media. Which is an activity that brings social media came to play a greater role in the organization of teaching and learning activities in agriculture to help learners have a good attitude towards modern agriculture. The skill of working in an efficient process problem solving skills systematic self-seeking coupled with having information, media and technology skills which is a skill that must be achieved for learners in the 21st century. Thus, from all condition that the research had mention made researcher interested to develop and find the effectiveness of learning activities through the process of integrated technique of 5E Inquiry approach and social media on agricultural product management for Grade 8 students. Research also expected to study the working skills of Grade 8 students who received learning activities integrated technique of 5E Inquiry Approach and social media, and then, to study the attitude of Grade 8 students who received these learning activities. And this research study also has purpose as follows:

1. To develop and find the effectiveness of learning activities through the process of integrated technique of 5E Inquiry approach and social media on agricultural product management for Grade 8 students.
2. To study the working skills of Grade 8 students who received learning activities integrated technique of 5E Inquiry Approach and social media.
3. To study the attitude of Grade 8 students who received learning activities through integrated technique of 5E Inquiry Approach and social media on agricultural product management.

2. Methodology

2.1. Population and Samples Group

2.1.1. Population

The population were Grade 8 students of Nongri Prachanimit School, Bo Phloi District, Kanchanaburi Province, 2nd semester, academic year 2019.

2.1.2. Sample

The sample group used in this research was random by purposive sampling were 18 persons of Grade 8 students in the 2nd semester of the academic year 2019, who chose to study agriculture for a career.

2.2. Research Tools

The tools for use in the research as follows:

1. Handbook for learning activities through the process integrated technique of 5E Inquiry Approach and social media on agricultural product management.
2. Skill Evaluation Form for students' work skills.
3. Questionnaire for students to study using integrated technique of 5E Inquiry Approach and social media.

2.3. Data Collection

The researcher has methods for data collection. The research was conducted with a sample of the research were 18 Grade 8 students who chose to study agriculture for a career. On agricultural product management with the following steps:

1. To clarify the organization of educational activities through the search for knowledge 5E together with the use of social media management of agricultural products. Let the sample students understand.
2. Have students do a questionnaire before studying by the survey theory constructed by the researcher. Has passed the quality inspection from experts already and save the results for use in data analysis.
3. Teaching according to the learning management plan set forth. With the sample group of 6 plans, 2 periods each plan, for a total of 6 weeks, beginning with the students taking the test before studying and then leading into the lesson. By teaching according to the learning activities plan that uses the 5E learning management process together with the use of social media that has been collected while studying and take the quiz after studying at the end of the last lesson. In order to take the scores during the study and the scores from the post-test for students to find the E1 / E2 efficiency.
4. There is an evaluation of student performance during the learning activities. Student work skills group work skills and work piece recording for use in data analysis

5. Have students do questionnaires after the class. Record results for use in data analysis.

2.4. Data Analysis

1. Analyze for the efficiency of learning management activities by calculating the E1 / E2.
2. Analyze information, students' skills by using mean, standard deviation, and compared with the criteria.
3. Analyze student behavioral data about learning management through the search process together with the use of social media. By using the comparison of differences between before and after learning by using t-test for dependent.

3. Results and Discussion

3.1. Research Findings

The researcher summarized the research results according to the set objectives as follows.

1. The efficiency of the learning activities through the integrated technique of 5E Inquiry Approach and social media on agricultural product management for Grade 8 students who have developed and searched for efficiency. Effective according to the criteria 80/80, that is to find the percentage of the scores during the course is equal to 80.28 (E1) and the percentage of the average score that the students after the test is 80.20 (E2).
2. The results of the study of operational skills of Grade 8 students who received teaching activities through the integrated technique of 5E Inquiry Approach and social media on agricultural product management have a high level of operational skills.
3. Attitude of Grade 8 three students being taught by using the integrated technique of 5E Inquiry Approach and social media on agricultural product management having an average score of attitude towards agriculture after studying higher than before studying with statistical significance at the level of 0.01.

3.2 Discussion

The research which studied the development of learning activities through the integrated technique of 5E Inquiry Approach and social media on agricultural product management for Grade 8 students can discuss the results as follows.

1. Learning activities through the search for knowledge in the form of the integrated technique of 5E Inquiry Approach and social media on agricultural product management for Grade 8 students, the efficiency is 80.28 / 80.20 which is in accordance with the 80/80 criteria because this learning activity has been systematically developed and developed. By studying documents and textbooks related research to study concepts, principles, and theories related to learning activities by using the 5E search process to help make teaching activities more efficient including social media studies in various formats that are suitable for use in learning activities of learners. To make learning activities up to date stimulate student interest and receiving advice from advisor's expert in media and technology teaching curriculum specialist expert in agricultural teaching, expert in measurement and evaluation to be used for continuous improvement Therefore resulting in effective learning activities as mentioned above.
2. Work skills of Grade 8 students after receiving learning activities through the 5E search process together with the use of social media on agricultural product management The overall level is very high ($\bar{x} = 3.24$). This is because the activities

that focus on the learners to take action steps that are effective. This situation effected students to have a more systematic thinking process able to perform activities in sequence. Using of technology media plays a role in the group work process. To encourage learners to be interested in exchanging knowledge and use various technology media to create works for lasting learning.

3. Attitude of Grade 8 students being taught by using the integrated technique of 5E Inquiry Approach and social media on agricultural product management having an average score of attitude towards agriculture after studying higher than before studying with statistically significance at the 0.01 level due to the learning activities that use various social media to play a role in the learning of students helps students become more active in their studies. Able to exchange knowledge anywhere, anytime, can use media and technology to create works as well as presenting the work widely resulting in learners having More positive attitude towards agriculture.

4. Conclusion

This paper discusses the develop learning activities on agricultural product management using a 5E search process together with the use of social media. Which is an activity that brings social media came to play a greater role in the organization of teaching and learning activities in agriculture. To help learners have a good attitude towards modern agriculture. The skills of working have been in efficient processes, and technology skills which are skill that must be achieved for learners in the 21st century. Researcher have suggestion for the others research or teacher next as follow:

General suggestion

1. Organizing learning activities through the search for knowledge 5E is an activity that helps learning activities in stages. But at the stage of activity activities, the instructor should have additional teaching techniques to encourage learning activities to be more effective
2. The researcher chooses to use various social media that can be adapted to the current teaching and learning but the instructor should adjust to the learner's context.
3. In learning management, the teacher should be a facilitator and encourage the students to want to participate in various activities so that the learners can learn independently with their thoughts.

Suggestions for conducting future research

1. Research should be conducted in learning activities through a variety of other learning processes.
2. There should be a study of learning activities at the level and various courses to be a guideline for the development of teaching and learning activities to be effective.
3. For the next research, the factors that affect the development of science learning should be studied in other variables, such as attitude in learning science, activities in other model etc.

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