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Abilities, Skills, and Attitudes toward Educational Research of Social Studies Students at the Faculty of Education, Phuket Rajabhat University

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Abstract

The purposes of this study were to explore the skills and attitudes of research for students majoring in social studies at Faculty of Education and to propose a method for improving research abilities. The study revealed that students' research abilities could be enhanced by organizing a training workshop in addition to classroom pedagogy and hands-on research. Courses in social studies should include suitable and regular instruction or training plans to boost students' research skills. This research also offered suggestions for improving educational research abilities, such as research knowledge, skills, and a positive attitude toward research. More specificall , students should be encouraged to conduct research of their interest, and should have the opportunity to conduct research within the appropriate time frame to maximize their research skills.

Introduction

Under Section 4 of the National Education Act B.E. 2542, "education" is defi ed as "the learning process for personal and social development through imparting of knowledge; practice; training; transmission of culture; enhancement of academic progress; building a body of knowledge by creating a learning environment and society with factors available conducive to continuous lifelong learning." According to the definition above, education is a process of learning to develop people and society. It is also critical for educational institutions to continually enhance their teaching method, particularly at the tertiary level, to completely and correctly use their knowledge in effectively growing individuals and society.

As a result, a number of higher education institutions have revised their curricula to include courses relevant to the present socio-economic situation. The society in which everyone is living is called "the society of changes". Changes in this society areso fast and fluctuating that they are hardly predictable. This difficulty in anticipating social changes turn the data-based and trend-based projections in education and future planning into the "scenario" projection, which is a key concept and tool scholars use for designing and planning strategies (Office of The Education Council, 2016). This is animportant concept in research since it incorporates knowledge in various disciplines. The analyses demonstrated through research find ngs also reflect the learning abilities of the researcher. In addition, the Constitution of the Kingdom of Thailand B.E. 2560 (2017) provides that "the State should provide and

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promote research and development of various branches of science, technology and disciplines of arts to create knowledge, development and innovation to strengthen the society and to enhance the competence of people in the Nation." To strengthen society and enhance the potentials of its citizens, the Thai Government established the 20-year Strategic Plan (B.E. 2561-2580). The National Strategy Plan for Human Resource Development highlights the reform of the learning process to meet developments in the twenty-first century. More precisely, it aims to enhance learning skills and an unquenchable thirst for knowledge by modifying the learning system that facilitates skill development for the 21st century. On the other hand, instructors take the role of modern teachers. The efficiency of educational management shall be elevated for all levels and all types, as well as lifelong learning system development (Notification on National Strategy (B.E. 2561-2580), 2018). Research, which combines learners' interdisciplinary knowledge, is the learning technique that best reflects an individual's potential.

Educational research is the formal, systematic application of the scientific method to the study of educational problems. The goal of educational research is essentially the same as the goal of all science: to describe, explain, predict, or control phenomena. (Mills & Gay, 2019). The most important questiontaken from that meaning is, why do we do educational research? The answers will begin the process of building a framework that will help in understanding how the research process works. At one level the answer to the question is quite simple but when you start to look at the reality of research it is a little more complex than one might think. There are three broad reasons for doing research in education. (1) To explore issues: This category includes everything from finding answers to a specific question to identifying and specifying a problem or issue that should be the subject of further research. (2) To shape policy: We conduct research to collect information and use it to make a judgement that informs policy goals and indicates how we can attain them. We also carry out research to find out whether we are going in the right direction once a policy has been implemented. (3) To improve practice: Doing something better than the way it is done already is a common reason for venturing into research. The sorts of improvement that can be investigated are improving educational outcomes, achieving the same outcomes with less resource, improving behaviour and social relations, improving personal effectiveness as a teacher, and improving the performance or standing of an educational institution. The list is almost endless (Newby, 2014).

Phuket Rajabhat University has a diverse curriculum offering. The Bachelor of Education in Social Studies, in particular, stresses the development of academic staff to serve society. The Faculty of Education, responsible for supervising and assuring the quality of the curriculum standards, needs to offer a research course for students. This subject also includes the research practice for fourth-year students as the beginning for developing knowledge, ability, and experience that will lead to the research during their professional internship (in the fifth year) as well as to study at a higher education level. The student research projects will refl ct the educational research abilities of students. However, there are certain limitations of the pedagogy of social studies, as discussed below:

1. Educational research subject covers a period of four months. The instructor of this course needs to transfer the knowledge of research theories, principles, and practice in the classroom. With a broad range of knowledge yet has limited time, the instructor needs to narrow down the content and manage less intensive instruction. Academic achievements are determined by grade measurement or evaluation. Given the nature of grading that reflects the content knowledge or compares students' abilities (Pasiphol, 2016), it cannot guarantee that students truly possess the knowledge and skills of educational research.

2. Time constraint is a critical problem for the educational research subject. It is relatively challenging for students to demonstrate a satisfactory level of knowledge, thinking, and analytical skills. Based on previous in-class research practice, students did not prove to have the knowledge, thinking, and analytical skills which are the fundamental principles for conducting research. Most of the time, they cut and paste bits and pieces from several similar research studies together without any original ideas or analyses.

3. Students enrolled in several courses in a semester. This burden bars them from effectively demonstrating educational research skills. For example, they lack observation abilities and are unable to correctly explain the study find ngs. Some of these research trainees are unfamiliar with their study topics and are unable to create research instruments. As a result, students cannot conduct research independently according to the constructionist learning theory. Constructionist scholars believe that successful learning

occurs when students apply their existing knowledge to acquire new knowledge. If learners have the opportunity to generate ideas and use those ideas to generate a piece of work with appropriate media and technology, the ideas will become more concrete. Once learners create something new into the world, it means they create knowledge. This knowledge devised by the learners will be meaningful, long-lasting, and hard to forget. In fact, they will be able to transfer the knowledge and enable others to comprehend their ideas. Furthermore, the self-created knowledge will be the foundation for the learners to extend to more and more knowledge endlessly (Khemmani, 2016).

Given the aforementioned problems, the educational research abilities of students majoring in social studies are insufficient to produce good quality research. Instructors still need to provide a workshop on basic research writing, topic selection techniques, and basic research statistics for students aside from classroom instructions. However, in order to create a piece of work, researchers should have 9 attitudes or psychological phenomena (Rosnow & Rosenthal, 1993) as follows: (1) being enthusiastic – the good start of being a good researcher is having fun at work or interest in work, provided the researcher must stay under correct rules and regulations, (2) being broad-minded – observation, attentiveness, curiosity and broad-mindedness are qualifications of good researchers since various breakthroughs that are accidentally discovered from broad-minded attitude shall help researchers achieve self-learning and learning from neighboring people effectively, (3) common sense of researchers can help a research study be conducted in a proper way, (4) ability to play a role in criticizing and examining research studies; the role should be played appropriately, (5) being creative – in addition to setting research questions, researchers shall have an idea to find funding for research, good places to research, a new way for analysis, systematic planning and analysis, including planning to conduct research to meet the set goals, (6) confidence in researcher's own decision-making - the important thing enabling research to be conducted continuously is confidence in making decision of researchers to choose the right implementation strategy, good methods for data analysis, good research data, (7) constancy and attention to detail since no research contains all data and details researchers need. Therefore, systematic and constant note-taking will help researchers have data beneficial to analysis increasingly, (8) communication ability – it is certain that a basic qualification of a good researcher is being able to communicate or interact with other people efficientl , (9) morality and ethics – this point is a basic qualification that researchers should always bear in mind in conducting research. Research shall be complete when researchers have morality and ethics in conducing and presenting research.

The researcher acknowledges that it is necessary to conduct research to improve the educational research abilities of social studies majors at the Faculty of Education, Phuket Rajabhat University, as the foundation for young researchers. Good quality research is the basis for planning and improving instruction and education that reflects the "scenario". Professional researchers and high-quality research will support the previously discussed national strategies. Strong research skills promote lifelong learning and help researchers to keep pace with advancements in the twenty-first centur .

Objective

To explore the approach for developing abilities, skills and attitudes toward educational research of students in social studies at faculty of education, Phuket Rajabhat University.

Conceptual framework

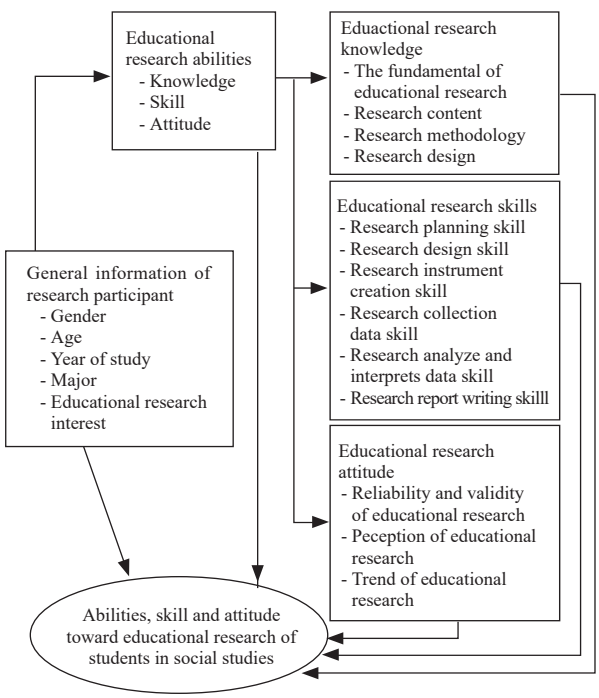

Figure 1 Conceptual framework

Research methodology

1. Population and sample

The population in this study included 150 students majoring in social studies at the Faculty of Education, Phuket Rajabhat University, in the academic year of 2020.

The samples included 60 fourth-year and fifth-year students majoring in Social Studies at the Faculty of Education, Phuket Rajabhat University. Samples had already registered and fini hed the educational research course in the academic year 2020. They were selected based on the purposive sampling method sorted by year of study.

2. Research instrument

The research instrument used for collecting the data in this study was a self-evaluating questionnaire on educational research abilities. The questionnaire was divided into five items. The first item gathered general information about the respondents, including (1) gender, (2) year of study, (3) experience in educational research, and (4) interest in educational research. The second item involved assessment of educational research knowledge (Kaemkate, 2008) including (1) research question and definition, (2) research theory and conceptual framework, (3) research design, (4) research instrument, (5) research population and sampling, (6) data collection, (7) data analysis, (8) research data interprate and conclusion, (9) research report, and (10) research outline writing. The third item evaluated educational research skills, (Pelz & College, 2022) including (1) research question, (2) research literature review, (3) research theory, (4) research operationalization, (5) research methods, (6) research sampling strategy, (7) pilot testing, (8) data collection, (9) data analysis, and (10) research report. The fourth item examined the attitudes toward educational research, including (1) opinion and reliability, (2) feelings, and (3) the trend of educational research. The fifth item explored the opinions and suggestions about the existing problems for educational research and improvement approaches for educational research instruction. This item included open-ended questions.

The second part of the questionnaire examined the students' research knowledge with a two-scale rating. More specifical y, students received one point for every correct answer and zero for incorrect ones. The results are shown by average (Chaiseang & Dolbhadcha, 2012). If the scores ranged from 80-100, the students' research knowledge is at the highest level, 70-79 a high level, 60-69 a medium level, 50-59 a low level, and 0-49 the lowest level.

The third and fourth part of the questionnaire contained a 5-point Likert's rating scale. The criteria for each scale are explained below (Sotornpitakkul, 2014). Five rating points mean students' positive attitude toward educational research is at the highest level, four points a high level, three points a medium level, two points a low level, and one point the lowest level.

The draft questionnaire and interview questions were presented to 3 experts to review appropriateness, language correctness, and consistency between question items and objectives (The Index of Item-Objective Congruence: IOC) for measuring validity. The validity of the questionnaire was 0.50. The questionnaire was pre-tested with 30 people who were not the research sample to measure reliability. The second part was the questionnaire about educational research knowledge. The reliability was measured using KR-20 formula of Kuder-Richardson. The reliability was 0.76, item difficulty (P value) was 0.59, meaning most of the items were moderately difficult, discrimination (R-value) was 0.30 showing a fair level. As for the third part– educational research skills and the fourth part– attitude toward educational research, 5-rating Likert Scale was used to test reliability by calculating from Cronbach's alpha (α) reliability coefficient; the reliability was 0.98.

3. Data analysis

Once the questionnaires were returned to the researcher, the data were then analyzed with Microsoft Excel. The characteristics of the five parts of the questionnaire are elaborated below:

Part 1: In the personal information section, the respondents filled in the questionnaire by choosing from a checklist. The data were analyzed in percentage and presented in tables and descriptions.

Part 2: Educational research knowledge contained multiple-choice questions where one correct answer scores one point and incorrect answer zero points. The diffi ulty level, discrimination, and mean were calculated and presented in tables and descriptions.

Part 3: Educational research skills and Part 4: Attitudes toward educational research contained rating scales. The mean, Cronbach's alpha (α) reliability coefficient, and standard deviation were calculated and presented in tables and descriptions.

Part 5: Contained open-ended questions that allowed respondents to demonstrate their opinions. The content analysis was performed and presented descriptively.

Results

Respondents included 60 students majoring in Social Studies at the Faculty of Education, Phuket Rajabhat University. The samples included 33 fourth-year students (55.00%) and 27 fifth-year students (45.00%). Most respondents were females (41 respondents or 68.33%) and had experience in two research studies (27 respondents or 45.00%), followed by four studies and five studies (one respondent each or 1.67%). Male students had experience in two research studies (52.63%). Most respondents (42 respondents or 70.00%) were not interested in educational research (but were required to read and conduct such research), most of which were female (32 respondents or 78.05%). On the contrary, respondents who were interested in educational research and were totally not interested in educational research at the same rate (5 respondents or 8.33% each).

This part of the data was analyzed by calculating the mean, confidence, and standard deviation. The analysis focused on three aspects: (1) students' educational research knowledge, (2) students' educational research skills, and (3) students' attitudes toward educational research. The analysis results are summarized below.

1. Part 2 of the questionnaire examined students' educational research knowledge. There were ten questions. Most respondents scored 6 and 7 points (18 respondents or 30.00% each), followed by 8 points (10 respondents or 16.67%), 9 points (1 respondent or 1.67%), one point and 3 points (1 respondent or 1.67%), 4 points (2 respondents or 3.33%), and 2 point (3 respondents or 5.00%). The analysis results can be reported from descending order of knowledge as follow: (1) knowledge about research problem determination and definition (85.00%), (2) knowledge about population and sample determination (83.33%), (3) knowledge about development of research conceptual framework and hypotheses (81.67%), (4) knowledge about data collection (75.00%), (5) knowledge about research design (71.67%), (6) knowledge about writing research reports (60.00%), (7) knowledge about writing a draft of a research paper (60.00%), (8) knowledge about research instrument development (55.00%), (9) knowledge about interpretation and research result conclusion (35.00%), (10) knowledge about data analysis (11.67%).

2. Educational research skills were assessed by Part 3 of the questionnaire. There were 11 questions. Item 11 collected academic achievements which were not included in the calculation. However, the data were analyzed as an attachment to the research skills. The analysis revealed that respondents had a high level of educational research skills ($\bar{x}$ = 3.60, SD = 0.77). Presentation can be divided into 3 phases (Pelz & College, 2022), i.e. Phase I: Exploration including research question, literature review, and theory. It was found that respondents had exploration skills at a high level on average; respondents had firstly skills in choosing research theories suitable for research questions ($\bar{x}$ = 3.68, SD = 0.72), followed by skills in choosing literature review comprehensively covered and appropriate to research studies ($\bar{x}$ = 3.65, SD = 0.76), and the last one was skills in determining research questions ($\bar{x}$ = 3.62, SD = 0.66). Phase II: Research design including operationalization, research method, and sampling strategy. It was found that respondents had research design skills at a high level on average. Respondents had skills in planning and designing how research can be conducted in the first place ($\bar{x}$ = 3.55, SD = 0.83), followed by skills in choosing population and sample suitable for research studies ($\bar{x}$ = 3.55, SD = 0.72) and the last one was skills in choosing research methodology appropriate to types for research ($\bar{x}$ = 3.47, SD = 0.79), and Phase III: Research execution including pilot testing, data collection, data analysis, and research report. It was found that respondents had skills in research execution at a high level on average. Respondents had skills in using an instrument for data collection appropriately in the first place ($\bar{x}$ = 3.67, SD = 0.73), followed by skills in choosing statistics for data analysis properly ($\bar{x}$ = 3.65, SD = 0.80) and skills in data processing, interpretation, and making a conclusion ($\bar{x}$ = 3.57, S.D. = 0.81). The last one was skills in writing research paper ($\bar{x}$ = 3.58, SD = 0.83). According to Table 2 and the analysis of academic achievements, most respondents (40 respondents or 66.67%) earned grade A, followed by B+ (10 respondents or 16.67%). Details are presented in Table 1 below.

Table 1 Academic achievement of social studies majors in the educational research subject

Academic achievement (Grade)	Number (respondents)	Percentage
A	40	66.67
B^+	10	16.67
B	5	8.33
C^+	1	1.67
C	0	0.00
D^+	2	3.33
D	2	3.33
Total	**60**	**100.00**

3. The 16 questions in Part 4 of the questionnaire explored the students' attitudes toward educational research. In general, the respondents had a high level of positive attitudes toward educational research ($\bar{x}$ = 3.49, SD = 1.10). A good proportion of respondents (32.81%) rated a score of 3 points or a medium level of positive attitudes toward educational research, while a small percentage (5.63%) of the respondent rated a score of 1 point or the lowest level of positive attitudes toward educational research. Considering individual questions separately, with Item 4, respondents reported that conducting educational research is something new and challenging for the knowledge and abilities ($\bar{x}$ = 4.02, SD = 0.91). A good portion of the respondents (22 respondents or 36.67%) rated a score of 5 points. With Item 1, a good portion of the respondents (22 respondents or 36.67%) rated the score of 4 points educational research develops students' ability ($\bar{x}$ = 3.98, SD = 0.83). On the other hand, 23 respondents (38.33%) rated a score of 2 points in Item 9 ($\bar{x}$ = 2.35, SD = 1.10), meaning that they felt that educational research is not worth the effort, cost, and time. Item 12 examined the students' opinions regarding the necessity of educational research. Most respondents (24 respondents or 40.00%) rated a score of 2 points ($\bar{x}$ = 2.47, SD = 1.26), meaning that the students tended to regard educational research as not necessary.

The approaches and suggestions for improving the abilities to conduct educational research for social studies majors were collected from Part 5 of the questionnaire. This part included open-ended questions. The responses revealed that research instructors should have effective communication and teaching techniques. Clear communication and great instruction will make students understand research design and planning better, including solutions to potential problems along the way. In addition, the instructors should provide various examples from domestic and international researchers and suggest useful sources of data for research. The samples suggested that the research subject should start in the second year to accumulate knowledge and practicefor usage in the fourth and fifth years. The timeframe for the research should be extendable. Some students were not able to complete the research project within a semester. This certainly affected other subjects. More importantly, research projects should not be expensive, and the results should be practically useful according to the research and development principles.

According to the interview of 10 teachers or consultant teachers of educational research from Faculty of Education, Phuket Rajabhat University, the analysis could be divided into 3 main points as (1) importance of educational teaching and learning management, (2) educational research potential, and (3) educational research development guidelines. Details of each point are:

1. Importance of educational teaching and learning management.

According to the analysis results, educational research teaching and learning management is important and necessary as a guideline for solving problems found in classroom and solving problems about the country education actually. Research is a subject that helps generate a process of systematic thinking, analyzing, and distinguishing in accordance with the principles of research methodology. Meanwhile students of the faculty of education who are going to be education personnel in the future shall possess research basic as a part of their career, especially academic promotion in different levels that personnel are required to conduct a research paper. Knowledge obtained from the subject of research is essential for educational students to learn. However, teaching and learning management in a classroom is quite limited, around 4 months or 120 days, making teaching and learning management concise with hurriedness to cover the short-term period. Job assignment is given to students to try and practice writing research according to the patterns teachers specify and the principles of research writing. In addition to teaching and learning management in classroom, students are assigned to read educational research papers to make their own conclusion; for example, students are divided into a group and each group is required to analyze what general objectives were found in the educational research, what kinds of instrument were used in the educational research, and what types of statistics were used for data analysis.The group activity is done before criticizing in classroom and generating a conclusion about patterns of writing, objectives, developing an instrument for data collection, and statistics used in data analysis. Doing such activities shall considerably reduce learning time about the research process in classroom and providing enough duration of time for students to practice research on their own.

By the way, teaching and learning management of the subject of research, teachers or research consultants shall have good knowledge and expertise in teaching

content areas. Nevertheless, teachers possibly have some restrictions in terms of knowledge and expertise in research, such as research process, interpretation of research results, theories about educational research, etc. The important point of teaching and learning management is the subject of educational research is a general subject that students of all academic majors need to learn, making teachers or educational research consultants unable to view details or accuracy of topics and content comprehensively; therefore, students' research papers are not good enough.

2. Students' educational research potential.

Potential, here, comprises knowledge, skills, and attitudes. According to the analysis results, skills are highly necessary for conducting research papers. Correct research skills can help research papers be conducted in a systematic and smooth manner. Though the research skills are what an individual already possesses and are basics for living a life, such as like to observe, like to ask questions, like to invent and discover things or like to make a conversation, a certain method for developing research skills is allowing students to conduct research papers by themselves regularly within sufficient duration of time. This method would help students absorb research qualities including bringing research results to solve problems in an actual area regularly, helping incubate research skills quite well. Attitudes requires time to change, to let students see research is vital, to actually generate innovation or problem solving methods. In other words, research is useful and teachers or research consultants should instill in students to have thought and belief that research is not a burden or causes a problemsin life or is too diffi ult. Student research papers that are submitted to teachers or research consultants should not be given only suggestions. On the contrary, teachers or research consultants should give students positive reinforcement to boost their morale for what they do correctly, encouraging them to have motivation to keep conducting their research further. In terms of knowledge, it is not necessarily obtained from teaching and learning management but it is what students can seek from books, textbooks, or media they access. Having good research knowledge encourage students to conduct research continuously and increasingthe ability to produce research quickly. However, knowledge is sometimes restricted. As time passes by, knowledge available seems to be out-of-date. Therefore, students should seek new knowledge at all times to ensure research produced is not obsolete and research results can be deployed, contributing to positive attitude toward research papers. Based on this point, it can be concluded that the important research potential that should be emphasized first is research skills, followed by attitude toward research and the last one is knowledge about research.

3. Educational research potential development guidelines.

According to the analysis results, teaching and learning management of the subject of educational research, especially the theory approach, is important as the first priority. Namely, theoretical learning about research is consisted of various content, such as seeking topics, determining objectives, population and sample, statistics used in research, interpretation of research results, preparing a report and making a conclusion of research, which are important to the structure of research, enabling students to see the overall picture of research that requires various data or information when it is conducted. In this regard, teachers or research consultants must have diverse techniques to enhance students to gain knowledge as much as possible regarding practicing in a certain matter by themselves or reading various research studies as well as preparing a conclusion and discussions in the classroom. Other topics/activites to cover is to practice creating an instrument, analyze data and interpret data, or assigning students to search for large enough information or references about research papers student are conducting so that they can make the basic structure of their own research. All of the above are teaching methods that shall enhance students to obtain research potential development in an effective way. However, teachers or research consultants should focus on promoting students to view the value of conducting research, which is useful and shall stay with students for a long time. Through instilling positive attitude toward research in students, especially indicating that research can generate value or economic benefits, such as searching for funding opportunities, researching new innovation for society by having financial factors stimulating a feeling of "want to do something", "want to be", and "want to have something". The methods will help students lower a barrier they initially set up that research is boring, useless, wastes their time and budget, and in turn focus research to be interesting. Moreover, good research should be conducted for society or helping society to solve problems or elevate a better standard of living, which will be highly beneficial to public. Prior research noted that it is inevitable that students need to

see various problems. Research conducted in response to social questions or help solve problems arising in society should be good and valuable. Therefore, teaching and learning management of educational research should not directly focus on education but should determine a broad framework that enables students to choose research topics being a part or associated with education, contributing to the variety of information or research results responding to public society and educational society like schools or educational system. It can be concluded that the development of research potential among students is allowing students to practice by themselves by having teachers or research consultants be mentors in order to help them gain more knowledge, incubate skills, and instill positive attitude in students. However, before conducting research, teachers or research consultants should instill knowledge and incubate good skills and attitude primarily in the classroom to ensure students obtain skills they can practice in real life research.

Discussion

The conclusion of this research can be discussed in three separate topics. First , most students majoring in social studies at Phuket Rajabhat University had a medium level of knowledge in educational research (61.83%). Secondly, the students had a high level of skills in educational research ($\bar{x}$ = 3.60, SD = 0.77), and most of them (40 students or 66.67%) had excellent academic achievements (grade A). Lastly,the students showed positive attitudes toward educational research at a high level ($\bar{x}$ = 3.49, SD = 1.10).

1. Students' knowledge in educational research: Students have a medium level of knowledge in educational research (61.83%). At this level, their knowledge would not be sufficient to produce good quality research. As evidenced by the questionnaire, two out of the ten questions were not answered correctly by less than 50.00% of the respondents. It can be seen from the percentage of knowledge about research, data analysis, and interpretation of research results were 11.67% and 35.00%, respectively. It is clear that students had very little knowledge in these areas, content passed on by teachers of educational research did not allow students to gain understanding at a sufficient level for being able to understand and analyze data and interpret research data, which is directly related to research methodology. These deficiencies could be caused by time constraints and complicated content shortened by the instructors to suit the semester. It is crucial for educational research instructors to improve the content and focus on both theoretical and practical instructions or provide advice to students more frequently. However, knowledge about developing research instrument did not reach 60.00%, which is considered a low level. Though students had knowledge about research problem determination and definition and knowledge about population and sample determination. However, research involves practical work starting from selecting the title, setting the objectives, and writing the research paper. Still, students demonstrated a low level of knowledge about creating data collection instruments. As a result, the data might not suit the work, and the research might be unsuccessful or have ineffective outcomes. These findings were similar to studies of Choochauy (1991) and Thongsamak (1995) whose research results showed that their participants avoided conducting the research because they lacked time, knowledge, research experiences, funds, supporters and advisors. These results were in conformity with the study of Meeler (1997). This researcher has listed competencies of the educational research instructors especially the competencies relevant to their knowledge and skills. The researcher competencies consisted of (1) having a good or relatively good background knowledge on the topic to be researched; (2) being skilled in knowledge-seeking system appropriate with research problems (3) knowing where to find research in the field of being studied; (4) having knowledge and skills in analysing and synthesising basic theories as a framework of research; (5) being able to search for, select and use studies of other researchers effectively and immediately; (6) having knowledge and skills in applying research methodologies, scientific methods and logical skills to solve problems; (7) being expert in research methodologies; (8) be proficient and skilled in creating and using different types of research tools (9) being skillful in adopting statistical methods to analyze the data; (10) being able to draw a conclusion from opinions and widely use it for references; (11) being able to examine, critique and predict; (12) being able to systematically work and organize ideas; (13) being skilled in research report writing; (14) being able to manage research as planned; (15) knowing techniques used for data collection; (16) working by following the principles of democracy; (17) working under the principle of cooperation; (18) always ensuring the methods of work are up-to-date; (19) controlling the success of work rather than an absent

of work; and (20) being able to lead oneself to a certain goal.

2. Students' skills of educational research: Students had high skills in educational research ($\bar{x}$ = 3.60, SD = 0.77). At this level, students had practical skills for research. According to the analysis, all the evaluation scores ($\bar{x}$) from the educational research skills were slightly different, but still at the same level (high for all ten questions). It is possible that the current instruction focuses on research practice to sharpen their research skills. Likewise, the results from the study of Sawadipoom (1997) reported that the way of becoming research teachers of the case studies originated from their personal characteristics as being knowledge-seeker, thinker, and read, write and nature lover. Such the characteristics have developed from their practices of observations, analysis and synthesis, their accumulation of life experiences, and the integration of their work as a teacher who loved children and wished to help them to improve a quality of life. These resulted in the development of the processes of becoming research teachers who conducted curriculumn document research, case-study research, and developmental research. The research problems were from students, and the teachers regarded a learning opportunity as an important initial idea. Moreover, the results from the study of Meeler (1997) revealed seven key competencies including knowledge and skills related to research methodologies and procedure, skills in teaching and learning development, ethics of a researcher, personalities and morality of teachers, skills in data gathering, skills in learning evaluation and data utilization, and skills of an analysis and synthesis of knowledge. In the same way, the study of Rungroungvanichgul (2013) also showed that there were three areas of research teacher competencies including research cognition, research psychology, and research practice skills.

Despite merely a fair level of knowledge in educational research (61.83), the academic achievements of the samples were on the opposite side of the spectrum. To clarify, 40 students (66.67%) earned Grade A and ten of them (16.67%) B^+. This insinuates that knowledge in educational research is not the only indicator of academic achievement. Notwithstanding the medium level of knowledge, their skills and positive attitudes toward research were at a high level, which are other indicators of academic achievements.

3. Students' attitudes toward educational research: Students had a high level of positive attitudes toward educational research ($\bar{x}$ = 3.49, SD = 1.10). The instructors might have fostered the value and benefits of research among the students by showing the fin ings from research that could solve problems in the real world. That the students were convinced by the research was a by-product of compliance with research methodology and the appropriate statistical tools. Students realized that research is not out of reach or beyond their capabilities. Positive attitudes certainly contribute to the hard effort and are likely to result in timely completion and success. This was consistent with the findings of Choochauy (1991) who noted that the secondary school teachers' motivation in conducting research included problems they encountered at school and their needs of reliable information to develop their work as well as commands or encouragement to develop research from administors. Apart from this, Thongsamak (1995) also discovered the reasons for conducting the research as it brought about pride and self-confid nce; it was of personal interest; and researchers wanted to apply the results of the research to solve problems in classrooms and to be a guideline for planning school operations. In a similar vein, the study of Junnumsai (2012) reported that factors related to personalities, classroom research knowledge, classroom research attitudes, and motivation which affected classroom of the teacher were found at the highest average score. Rungroungvanichgul (2013) agreed with these findings. This researcher found that, to empower research teacher competencies, it consisted of five steps: step 1 Willing and Value, step 2 Do, step 3 Review, step 4 Learn and, step 5 Apply. However, two questions appeared to have a low level of positive attitudes, namely Item 9 (Conducting educational research is worth the effort, cost, and time) and Item 12 (I tend to think that educational research is necessary.) Therefore, instructors need to convince students to appreciate abstract values of research, such as dignity and reputation, and concrete values, such as monetary reward or prizes. Moreover, demonstrating how outcomes of the research could solve problems may increase positive attitudes toward research.

From what was mentioned earlier, the guidelines for the development of educational research potential among social studies students found that teachers should make a plan and determine content of teaching and learning management to be appropriate and systematic in accordance with the principles of teaching and learning management of the subject of educational research. Its content should be suitable for students, not

unnecessarily too profound and not too superficial to be unable to bring the knowledge to conduct research, especially research knowledge about data analysis, research result interpretation, and development of research instrument that are not detailed enough for students to prepare a good report. Students should be allowed to practice or try conducting educational research on their own. There is an opinion showing that conducting educational research would help in developing the education system to achieve advancement, modernity and be able to solve problems occurring to the education as well. Some respondents suggested the faculty to give support in the form of research funds in presenting research at an international level so as to publicize students' research papers conducted during their study to be widely known among the public, which is a way to boost students' morale and encouragement. Furthermore, it is a method to publicize the faculty and the university at the same time. It was also suggested that teaching and learning management should be carried out through practicing how to conduct research focusing on a way of living including developing educational research that can be applied to daily life. Educational research should be conducted in a way useful for the development of teaching and learning that can be actually used in classroom, which would help solve teaching and learning management problems found in the classroom. Educational research should be conducted to be up-to-date and on a timely basis. Research topics should be selected according to what researchers are keen on so that research shall be conducted quickly and smoothly, enabling research to achieve success within a short time. According to Pantuso, LeMire, and Anders (Eds.) (2022) who found that the best research topics are meaningful to researcher: therefore, researcher should: (1) Choose a topic that you want to understand better; (2) Choose a topic that you want to read about and devote time to; (3) Choose a topic that is perhaps a bit out of your comfort zone; (4) Choose a topic that allows you to understand others' opinions and how those opinions are shaped; (5) Choose something that is relevant to you, personality or professional; and (6) Do not choose a topic because you think it will be "easy", those can end up being quite challenging.

Suggestions

This research offers the following suggestions.

1. Teachers should make a plan and determine teaching and learning management content to be appropriate and systematic according to the principles of teaching and learning management of the subject of educational research. Content should be concise and suitable for students, not unnecessarily too profound and not too superficial to be unable to bring the knowledge to conduct research, especially research knowledge about data analysis, research result interpretation, and development of research instrument that are not detailed enough to encourage students to conduct research well. Students should be enhanced to practice or try conducting educational research on their own increasingly by having teachers as their mentors who help them increase knowledge, incubate skills, and instill positive attitude including giving advice and suggestion in conducting research useful for students.

2. Regarding the training approach to improve research abilities, the faculty or organization should not only offer classroom instructions but also organize training sessions for students regularly. Keynote speakers with outstanding works should be invited to give lectures to students. Some of the important training topics should be: 1) thinking process training such as systematic thinking, scientific thinking, and creative thinking, 2) how to develop research topics, 3) communication, including speaking, reading, and writing in Thai and English, 4) presentation practice in Thai and English, (5) academic writing, 6) teamwork and collaboration with the supervisor, 7) creating necessary attitudes, and 8) Knowledge Management (KM). These training programs will improve the knowledge in addition to classroom instructions.

3. The faculty should give support in the form of research funds in presenting research at an international level so as to publicize students' research papers conducted during their study to be widely known among the public, which is a way to boost students' morale and encouragement. Furthermore, it is a method to publicize the faculty and the university at the same time.

References

Chaiseang, N., & Dolbhadcha, S. (2012). *Research Report: Satisfaction of Staff at Faculty of Education in Academic Year 2011.* Khon Kaen: Khon Kaen University.

Choochauy, W. (1991). *Research Conducted in Schools of Secondary Education Teachers Under The Jurisdiction of General Education, Bangkok Methopolis.* (Master Degree Thesis). Chulalongkorn University, Bangkok.

Junnumsai, W. (2012). *Factors Related to Classroom Research Competency of Teachers at The Secondary Educational Service Area Office 30.* (Master Degree Thesis). Rajamangala University of Technology Thanyaburi, Pathum Thani.

Kaemkate, W. (2008). *Research Methodology in Behavioral Sciences* (2nd ed.). Bangkok: Chulalongkorn University Press.

Khemmani, T. (2016). *Science of Teaching Pedagogy: Know-how for Effective Instruction Management* (20th ed.). Bangkok: Chulalongkorn University Press.

Meeler, P. (1997). *A Study of Competencies of Researcher Teachers.* (Master Degree Thesis). Chulalongkorn University, Bangkok.

Mills, G. E., & Gay, L. R. (2019). *Educational Research: Competencies for Analysis and Applications* (12th ed.). MA: Pearson Education, Inc.

Newby, P. (2014). *Research Methods for Education* (2nd ed.). OX: Routledge.

Notification on National Strategy (B.E. 2561-2580). (2018). *Royal Thai Government Gazette, 135,* (82A), 1-71.

Office of The Education Council. (2016). *Research Report: The Tendency of Projection of Learning and Education in Thailand B.E. 2573.* Bangkok: 21 Century Press.

Pantuso, T., LeMire, S., & Anders, K. (Eds.). (2022). *Informed Arguments: A Guide to Writing and Research* (Revised Second ed.). Texas A&M University, College Station, Texas 77843.

Pasiphol, S. (2016). *Learning Evaluation and Assessment.* Bangkok: Chulalongkorn University Press.

Pelz, W., & College, H. (2022). *Research Methods for the Social Sciences.* N.p.: Open Education Resource (OER) LibreTexts Progect.

Rosnow, R. L., & Rosenthal, R. (1993). *Beginning behavior research: A conceptual primer.* New York: Macmillan.

Rungroungvanichgul, O. (2013). *The Model Development to Enhance Researchers' Competency for Teachers in Secondary Educational Sevice Area Office 2 by Learning Process Integration.* (Doctoral Dissertation). Srinakharinwirot University, Bangkok.

Sawadipoom, N. (1997). *Development Path of Teacher-Researcher: A Case Study of Outstanding Elementaty School Teacher.* (Master Degree Thesis). Chulalongkorn University, Bangkok.

Sotornpitakkul, R. (2014). *The Model of Research Application for School Administration.* (Doctoral Dissertation). Silpakorn University, Nakhon Pathom.

The Constitution of the Kingdom of Thailand B.E. 2560. (2017, 6th April). *Royal Thai Government Gazette, 134,* (40 A), 1-90.

Thongsamak, S. (1995). Causes for *Undetaking Research or Not and The Situations of Doing Research for Secondary Educational Teacher under The Jurisdiction of The Department of General Education, Ministry of Education, Region 3.* (Master Degree Thesis). Kasetsart University, Bangkok.