

**ELEMENTS THAT AFFECT THE RESEARCH OF STUDENTS  
PRACTICING TEACHER PROFESSIONAL EXPERIENCE  
DEPARTMENT OF MATHEMATICS, SUAN SUNANDHA RAJABHAT  
UNIVERSITY**

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**ABSTRACT**

The research aimed to study the elements that affect the research of students practice teacher profession. The research sample group included 52 students in the 4th year of mathematics, Faculty of Education, Suan Sunandha Rajabhat University for the academic year 2023 by using a simple random sampling technique. The data was gathered through a questionnaire with Cronbach's Alpha Coefficient of 0.94 and analyzed using percentages, mean and standard deviation.

These findings showed elements that affect the research of students practicing teacher professional experience. The highest level of mathematics includes attitude towards research ( $\bar{x} = 4.44$ , S.D. = 0.57), motivation for research ( $\bar{x} = 4.28$ , S.D. = 0.65) and at the high level includes the characteristics of the researchers ( $\bar{x} = 4.02$ , S.D. = 0.68), the support aspect of the school and mentors ( $\bar{x} = 3.97$ , S.D. = 0.90), respectively.

**Keyword:** Elements, Research, Students practice teacher profession.

**INTRODUCTION**

In the current context, research activities within the classroom are an integral part of the professional teaching experience for fourth-year students majoring in Mathematics at the Faculty of Education, Suan Sunandha Rajabhat University. Students engage in practical research following various steps in the research process, starting from identifying the research problem, research questions, establishing research hypotheses, determining the population and sample groups, reviewing relevant literature, selecting data collection tools and methods, data analysis, interpretation of results, and concluding with the presentation and discussion of the research findings. This approach allows students to systematically think through the research process, develop skills in data analysis, and integrate and synthesize related scientific disciplines. Students also gain a foundation in conducting research for future classroom applications. The overall aim is to foster critical thinking, enhance analytical skills, and promote interdisciplinary connections. Moreover, students acquire proficiency in writing research reports and articles for dissemination, contributing to the broader academic community.

As a teaching supervisor for fourth-year students majoring in Mathematics, I have encountered challenges in guiding research projects, starting from the analysis of problems in the classroom to formulating research questions and identifying suitable research topics. Students often face difficulties in developing skills related to writing the significance of the problem and the rationale for the research, as well as defining research objectives, conducting literature reviews, exploring concepts and theories relevant to the research, and synthesizing content derived from reviewing related research documents. Planning the research, creating research tools, utilizing pre-existing software for data analysis, interpreting data, and

presenting and discussing research findings are additional areas where students may struggle. Furthermore, the time frame for conducting research is considered a significant aspect of the challenges faced by students. Upon reviewing literature and relevant research, it was found that direct influencing factors on the learning outcomes of research courses include students' intention to learn, with a statistically significant correlation coefficient of 0.26 at the 0.05 significance level. Direct and indirect influencing factors on the learning outcomes of research courses include attitudes towards research, teaching quality, and motivation for achieving excellence, with correlation coefficients of 0.87, 0.54, and 0.96, respectively, all statistically significant at the 0.05 significance level (Wonida Homchan, 2022).

Sumintorn Baotram and colleagues (2023) identified two components contributing to the research challenges faced by students. These components include issues related to defining research topics and challenges in conducting research. Through confirmatory factor analysis (CFA) with continuous factor indicators and second-order factor analysis, both components were confirmed. The most significant research challenge identified was data collection, followed by insufficient electronic media for research data dissemination and data analysis issues. In a similar vein, Rangsarid Watayota (2018) studied factors influencing the research capabilities of teachers in schools affiliated with the educational area office in Maha Sarakham, District 3. The study identified four variables influencing research capabilities in the classroom: attitude toward classroom research, motivation for classroom research, classroom research-friendly atmosphere, and characteristics of the researcher.

Given the aforementioned context, the researcher is interested in studying the elements influencing the research activities of students practice teacher profession majoring in Mathematics at Suan Sunandha Rajabhat University. The aim is to derive valuable insights and recommendations for instructional strategies and research guidance in mathematics classrooms, providing a foundational knowledge base for future research endeavors.

## **OBJECTIVES**

To study the elements that affect the research of students practicing professional teacher experience. Such as the Characteristics of researchers, The support aspect of the school and mentors, Attitude towards research and Motivation for research.

## **RESEARCH QUESTIONS**

The elements related to the characteristics of researchers, the support aspect of the school and mentors, attitude towards research and motivation for research affect the research activities of students practicing professional teacher experience at the high level.

## **RESEARCH PROCESS**

This research aims to study the components influencing the research activities of students practicing professional teacher experience department of Mathematics, Suan Sunandha Rajabhat University. The researcher conducted the study by presenting the following procedural steps

### **Population and Sample**

The population used in this research consists of fourth-year students department of Mathematics, Suan Sunandha Rajabhat University, who are currently undergoing professional teaching experience in the first semester of the academic year 2023. The total population is 64

students, and the research sample, comprising 52 individuals, was selected through simple random sampling.

### Research Tools

The research tool utilized in this study is a questionnaire that assesses the components influencing the research activities of students practicing professional teacher experience department of Mathematics, Suan Sunandha Rajabhat University. The questionnaire employs a Likert scale with five levels, representing: Highest, High, Moderate, Low, and Very Low. The researcher aimed to create a high-quality questionnaire by defining the research components, conducting a literature review, and extracting practical definitions from relevant educational documents. Afterwards, the researcher established operational definitions following the Likert scale format. The questions were formulated to cover the structure of practical definitions. The questionnaire consisted of 20 questions designed to comprehensively assess the quality of teaching, adhering to the Likert scale principles. Subsequently, the researcher sought feedback from three experts in educational research and measurement to determine if each question aligned with the content. Questions with an Index of consistency (IOC) greater than 0.50 were considered valid. The measurement instrument, approved by the experts, was then tested on 30 non-sample students to assess its reliability using Cronbach's alpha coefficient, resulting in a reliability coefficient of 0.94. Upon achieving high reliability, the finalized questionnaire was produced for data collection with the intended sample group.

## RESULTS

In analyzing the data, the researcher computed basic statistical measures, including percentages, mean values, and standard deviations, using statistical software.

The research study on the educational outcomes influencing the research activities of students practicing professional teacher experience department of Mathematics, Suan Sunandha Rajabhat University presents its findings in two main sections.

### Part 1: General Information

Part 1: The majority of students in the study are female (73.10%), belonging to class 01(51.90%). Regarding teaching experience, 28.80% have experience teaching more than one grade level, followed by 21.2% teaching at the grade 8 of secondary education, and 19.2% at the grade 7 of secondary education.

### Part 2: Components related to the Characteristics of Researchers

Details of the elements influencing the research activities of students practicing professional teacher experience department of Mathematics, Suan Sunandha Rajabhat University are as follows

**Table 1.** Elements related to the characteristics of researchers

Text	$\bar{x}$ (S.D.)	Meaning
<b>The Characteristics of researchers.</b>	4.02(0.68)	high
1.You are someone who constantly seeks knowledge in research.	3.77(0.81)	high
2.You are diligent, focused, and patient in order to successfully conduct research.	4.19(0.79)	high

<b>Text</b>	<b><math>\bar{x}</math>(S.D.)</b>	<b>Meaning</b>
3.You have intellectual independence, free from bias at every stage of the research.	4.19(0.86)	high
4.You never feel discouraged when facing challenges in research	3.60(0.99)	high
5.You would disseminate successful research outcomes to teachers or relevant individuals for future benefits.	4.33(0.73)	highest

From Table 1, it can be observed that the elements regarding the characteristics of researchers are generally agreed upon by the students at a high level ( $\bar{x} = 4.02$ , S.D. = 0.68). The highest agreement is found in the willingness to disseminate successful research findings to teachers or relevant individuals for future benefits ( $\bar{x} = 4.33$ , S.D. = 0.73). Following closely are characteristics such as being diligent, focused, and patient in conducting research ( $\bar{x} = 4.19$ , S.D. = 0.79), and having independent thinking without bias at every stage of the research process ( $\bar{x} = 4.19$ , S.D. = 0.86).

**Table 2** Elements related to the support aspect of the school and mentors

<b>Text</b>	<b><math>\bar{x}</math>(S.D.)</b>	<b>Meaning</b>
<b>The Support aspect of the school and mentors</b>	3.97(0.90)	high
1.The school is well-equipped with materials and resources conducive to research	3.73(1.22)	high
2.Mentors provide excellent guidance in conducting research	4.37(0.71)	highest
3.Research is seen as an indicator of the school's performance	3.56(1.33)	high
4.The school provides good support for the students' research	3.96(1.10)	high
5.Both the school and mentors emphasize the importance of the students' research	4.21(0.82)	highest

From Table 2, it is observed that the elements related to school and mentor support are highly agreed upon by the students, with an overall level of agreement at a high level ( $\bar{x} = 3.97$ , S.D. = 0.90). The highest level of agreement is found in the aspect of mentors providing excellent guidance and advice in conducting research ( $\bar{x} = 4.37$ , S.D. = 0.71). Following that, the students highly agree that both the school and mentors emphasize the importance of their research ( $\bar{x} = 4.21$ , S.D. = 0.82), and the school supports their research endeavors well ( $\bar{x} = 3.96$ , S.D. = 1.10), in respective order.

**Table 3** Elements related to the attitude towards research

<b>Text</b>	<b><math>\bar{x}</math>(S.D.)</b>	<b>Meaning</b>
<b>The Attitude towards research</b>	4.44(0.57)	highest
1.Conducting research has led to improvements and developments in the teaching and learning processes.	4.27(0.77)	highest

Text	$\bar{x}$ (S.D.)	Meaning
2.Research activities provide information for the students to enhance and improve the learning of their students	4.52(0.67)	highest
3.Research efforts have led to the identification of accurate alternatives for problem-solving	4.42(0.70)	highest
4.Research activities enable the students to use various teaching methods	4.48(0.64)	highest
5.The students take pride in successfully completing their research projects	4.52(0.54)	highest

From Table 3, it can be observed that the elements related to the attitude towards research are highly agreed upon by the students, with the highest level of agreement ( $\bar{x} = 4.44$ , S.D. = 0.57). Specifically, the students strongly agree that they take pride when their research projects are successful ( $\bar{x} = 4.52$ , S.D. = 0.54). Additionally, they highly agree that conducting research provides information to improve and enhance student learning ( $\bar{x} = 4.52$ , S.D. = 0.67). Following closely are the aspects of using various teaching methods as a result of research activities ( $\bar{x} = 4.48$ , S.D. = 0.64) and discovering accurate alternatives for problem-solving through research ( $\bar{x} = 4.42$ , S.D. = 0.70), respectively.

**Table 4** Elements related to the motivation for research

Text	$\bar{x}$ (S.D.)	Meaning
<b>The Motivation for research</b>	4.28(0.65)	highest
1.Students improve teaching and learning by incorporating research findings	4.13(0.68)	high
2.They are highly satisfied with conducting research as it enables them to solve issues related to teaching and learning effectively	4.36(0.54)	highest
3.Students express a strong inclination to seek knowledge related to research activities	4.08(0.79)	high
4.They are most likely to consult experts when facing challenges in research	4.52(0.64)	highest
5.Students frequently explore research studies and articles to enhance their understanding of research methodologies	4.33(0.73)	highest

From Table 4, it can be observed that students highly agree with the motivational aspects of research, with the highest level of agreement ( $\bar{x} = 4.28$ , S.D. = 0.65). Specifically Students most agree that they often seek advice from experts when facing challenges in research ( $\bar{x} = 4.52$ , S.D. = 0.64).The next highest agreement is regarding their satisfaction with research, as it allows them to address issues related to teaching and learning effectively ( $\bar{x} = 4.36$ , S.D. = 0.54) Students also frequently study and explore various research studies and articles ( $\bar{x} = 4.33$ , S.D. = 0.73)

## CONCLUSIONS

1. The sample group of students practicing professional teacher experience department of Mathematics, Suan Sunandha Rajabhat University agrees that the elements influencing research abilities include researcher characteristics, school and mentor support, attitudes toward research, and motivation for research. All four components are crucial for conducting research. This aligns with the findings of Afifi Latte and Suparnsa Suwanchatri (2023) Study of causal factors influencing classroom research skills of Faculty of Education teaching practice students. Prince of Songkla University Pattani Campus It was found that the factors influencing classroom research skills were knowledge, attitude, curriculum quality, motivation and the role of mentor and inservice teacher in the same way as Wipawan Ekwannang (2021) Study on the development of competency indicators of researchers operating in the classroom of students practicing teacher profession. Faculty of Education, Suan Sunandha Rajabhat University It was found that 8 elements are suitable as follows: 1) conducting operational research in the classroom, 2) attitudes and characteristics of researchers operating in the classroom, 3) teaching and learning, 4) knowledge and characteristics of teacher ethics, 5) observing and developing students, 6) seeking answers, 7) honesty in referencing documents/researches, and 8) academic achievement.

2. The sample group of students practicing professional teacher experience department of Mathematics, Suan Sunandha Rajabhat University highly agrees that school and mentor support significantly influence research abilities. The students, who have conducted teaching practice in schools, acknowledge that the success of their research is often a result of the support from schools and mentor teachers. This support includes various guidance on students, curriculum content, teaching facilities, and research. This finding is consistent with Juthamart Itsaraphinya (2019) research on causal factors influencing the success of classroom research in primary schools under the Office of the Basic Education Commission in Sakon Nakhon Province. Itsaraphinya identified three dimensions that should be developed: promoting classroom research, policy management leading to practice, and personnel development.

3. The sample group of students practicing professional teacher experience department of Mathematics, Suan Sunandha Rajabhat University highly agrees that attitudes toward research, especially the sense of pride when research is successful, significantly influence research abilities. Following closely are the impacts of research on improving student learning and the use of various teaching methods resulting from research. Thus, students express the greatest desire for research. This corresponds to Rangsarid Watayota (2018) research on causal factors influencing research abilities in classrooms of teachers in the Mahasarakham Educational Service Area, District 3. The study identified eight suitable components, namely: research operations in the classroom, attitudes and characteristics of researchers in the classroom, teaching management, knowledge and moral qualities of teachers, observation and student development, inquiry, honesty in referencing documents/research, and the effectiveness of learning.

## SUGGESTIONS

A study should be conducted on the elements influencing the research capabilities of students practice teacher profession at the Rattanakosin Rajabhat University. This study aims to cover all academic disciplines and gather information regarding research-oriented teaching formats for future reference.

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