

RESEARCH ON FACTORS AFFECTING THE SCIENTIFIC RESEARCH ACTIVITIES OF STUDENTS AT HANOI ARCHITECTURAL UNIVERSITY

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Abstract

This study was designed to analyze factors affecting student scientific research activities as viewed through the lens of the students themselves. The data was gathered through a survey of Hanoi Architectural University students. The findings of this analysis serve as the foundation for suggesting measures to improve student scientific research endeavors.

Keywords: Scientific research, Students, Hanoi Architectural University.

1. Introduction

Scientific research is vital not only for lecturers and scientists but also for students. Engaging in scientific research (NCKH) not only enhances the expertise of lecturers but also enables students to put the methodology and knowledge they have learned into practice. Furthermore, this serves as a valuable resource for students in the future.

Hanoi Architectural University is a dynamic and diverse educational institution that offers a broad range of training programs across multiple disciplines. From engineering, architecture, and design to economics and urban management, students at this school receive a comprehensive education. The university is dedicated to continually enhancing the quality of its programs, including fostering scientific research among students. This is a quite effective solution for improving the quality of training in universities. However, some units may face challenges in executing this strategy due to subjective and objective factors. Additionally, it's worth noting that many students have yet to fully grasp the significance of scientific research activities, which limits the growth of the student research community.

This study aimed to identify factors that affect the scientific research activities of students at Hanoi Architectural University. The study proposes solutions to promote scientific research activities among students at the school.

2. Research overview

Undertaking scientific research is a critical undertaking, not just for educators, but for learners as well. It is a valuable means for students to supplement their practical knowledge beyond what they learn from teachers and peers in school. However, Vietnamese students, particularly those in university, face several limitations in their scientific research endeavors. It is essential to analyze the present state of scientific research activities and identify the factors that hinder student participation in such pursuits. By doing so, we can offer recommendations that will aid in boosting scientific research activities among students.

Numerous research initiatives have been undertaken to underscore its significance. For instance, in 2011, authors Dang Danh Loi and Le Hoang Viet Lam proposed solutions to enhance scientific research efficiency, ultimately supporting the development of first-rate human resources among university and college students in the Mekong Delta region. In 2006, author Dang Thi Van conducted a study that explored the level of awareness among students at the Hanoi Agricultural University 1 regarding scientific research activities. Meanwhile, author Nguyen Quoc Nghi (2011) highlighted the current state of scientific research activities among students, demonstrating its role in training high-quality human resources.

In their research, Nguyen Thi Mai and colleagues (2014) highlighted the advantages of scientific research activities for both those who benefit from the results and those who conduct the research. The study also identified factors that impact the quality of scientific research activities among students at the Foreign Trade University Ho Chi Minh City Campus (FTU2), with instructors being the most significant factor and having the greatest influence on students' scientific research activities, followed by students' limited knowledge

and interest in scientific research. Based on these findings, the authors put forward several strategies to improve students' scientific research activities at the Foreign Trade University Ho Chi Minh City Campus (FTU2).

In practice, it is evident that various environments and regions possess unique features in terms of their populace, awareness, economic status, and more. Consequently, applying research findings from one area or unit to another can prove challenging. Hence, it is crucial to conduct research that identifies the factors influencing the scientific research endeavors of Hanoi Architectural University's students. This information can then be leveraged to propose solutions that enhance the scientific research activities of students at the institution.

3. Research Methods

To analyze factors affecting the scientific research activities of students at Hanoi Architectural University, data sources for the research were collected through direct investigation using questionnaires and direct interviews.

According to Hair et al (2006), to use factor analysis, the minimum sample size is 50, preferably 100, and the observation/measured variable ratio is 5:1, This means that a measured variable needs at least 5 observations.

According to the opinion of author Nguyen Van Thang (2014), the minimum number of samples needed to be able to perform statistical analysis is 100. The author chose a sample size of 100, corresponding to the 100 students selected to interview and collect .

Through reference to research documents by Chu Ba Quyet (2014), Nguyen Thuy Phuong, Le Thi Xuan Sang (2014), and Tran Thi Kim Phuong (2014), the author has identified seven sets of criteria that affect students' capacity to engage in scientific research. These criteria were analyzed using a factor analysis model and variable conventions from V1 to V7, as detailed below.

Table 1. Interpretation of variables of the research model

| Symbol | Variable names | The scale |
|--------|---|-----------|
| V1 | Complicated payment and settlement process | 1→5 |
| V2 | Personal capacity and interested in participating in scientific research | 1→5 |
| V3 | Received awards and participated in student scientific research competitions | 1→5 |
| V4 | Enthusiasm of instructors (GVHD) | 1→5 |
| V5 | Communication skills, presentation, and arranging time between studying and scientific research | 1→5 |
| V6 | Funding to support project implementation | 1→5 |
| V7 | Information about scientific research activities | 1→5 |

Source: Compiled by the author

Descriptive statistical method was used in the research.

4. Research findings

The following aspects show the current status of student participation in scientific research activities at Hanoi Architectural University: the percentage of participating students, their roles, and the duration of participation.

Table 2: Current status of students participating in scientific research

| Criteria | | Number of samples (N) | Ratio (%) |
|-----------------------|------------------------|-----------------------|------------|
| Participated | | 47 | 14,46 |
| Role of participation | Principal investigator | 9 | 19,14 |
| | Participating members | 38 | 80,86 |
| Year of participation | 1st year | 0 | 0,0 |
| | 2nd year | 16 | 34,04 |
| | 3rd year | 26 | 55,31 |
| | 4th year | 5 | 10,65 |
| Not engaged | | 278 | 85,54 |

Source: Author's survey results

According to recent survey results, the percentage of students who participate in scientific research is quite low, at only 14,46%. Of those who do participate, 19,14% act as principal investigators and 80,86% as members of the research team. While 4th-year students meet the requirements to undertake a scientific research project, their participation rate is still limited (10,65%) due to the necessity of completing a graduation thesis or project as well as the limited time available. The majority of students who participate in scientific research are in their 3rd-year studies (55,31%), followed by 2nd-year students (34,04%). No freshmen participated in scientific research projects, citing reasons such as being new to the learning environment, new learning

methods, new teachers, and lacking the confidence and knowledge to participate. At the same time, updating their knowledge is still very limited.

Table 3: Students' awareness of scientific research activities

| Awareness about Scientific Research activities | Quantity | Ratio (%) |
|--|----------|-----------|
| Very important | 0 | 0 |
| Important | 1 | 1 |
| Less important | 24 | 24 |
| Not important | 75 | 75 |
| Total | 100 | 100 |

Source: Author's survey results

According to the survey, roughly 24% of students interviewed believed that research activities had some influence on their academic journeys; however, students did not deem it to be crucial. Having scientific research activities is fine, and not having them will not have any impact on their careers and studies. Approximately three times the number of students interviewed stated that students' scientific research activities were unimportant compared to the number of students who answered that scientific research has a role but is less important (about 75% of students).

Scientific research is a crucial element that has been confirmed both theoretically and practically through published research works, which is true in practice. It equips students with a broader perspective, enhances their logical and soft skills, and ultimately enables them to grasp work responsibilities faster and more efficiently.

To measure the importance of factors affecting students' ability to participate in scientific research, descriptive statistics of the variables are shown specifically in the following table:

Table 4: Descriptive statistics of variables

| Descriptive Statistics | | |
|------------------------|------|----------------|
| | Mean | Std. Deviation |
| V1 | 3.80 | .473 |
| V2 | 3.77 | .490 |
| V3 | 3.51 | .507 |
| V4 | 3.51 | .507 |
| V5 | 3.37 | .490 |
| V6 | 3.46 | .505 |
| V7 | 3.69 | .471 |

Source: Processing results from survey data

The research shows that the scales used in the study have an average value (Mean) ranging from 3,46 to 3,8. V1 has the highest average value of 3,8, while V6 has the lowest with 3,46.

5. Some recommendations

To promote the scientific research activities of Hanoi Architectural University, some solutions are proposed as follows:

Firstly, it is important to create a robust scientific research environment that inspires and motivates students to engage in this pursuit.

This strategy should focus on cultivating a diverse range of research activities across all faculties, subjects, and student groups within affiliated units. Additionally, a variety of measures can be employed to ignite students' enthusiasm for scientific research and provide them with opportunities to apply their skills, experiences, and knowledge to research tasks. Ultimately, these efforts will enhance the quality of education, advance industry development, and benefit local communities.

Secondly, it is important to improve the conditions for scientific research activities among students.

This entails providing timely and reasonable enhancements to the facilities, funding, and overall support system that are currently in place. The goal is to better serve the scientific research work of both students and lecturers within the school community. To achieve this, we must mobilize different funding

sources to gradually increase funding for science and technology activities, invest in professional documents, and upgrade the facilities, equipment, and laboratories to become more modern and serve the research needs.

Thirdly, increase the publication and application of results and products of students' scientific research activities.

This measure aims to innovate in management and work methods, creating a favorable environment for the quick application of research results to production and life so that science and technology increasingly promote their role as driving forces in promoting socio-economic development.

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