

Teachers' Competence towards Research Engagement: The Case of Camarines Sur, Philippines

Ronnie B. Rubi^a

^a Ed.D, Bicol State College of Applied Sciences and Technology
ronbrubz@gmail.com

Abstract

The State Universities and Colleges (SUCs) have responded in various ways to the call for a more robust research orientation among SUCs. It is in response to the Commission on Higher Education (CHED) policies and mandates that are primarily geared towards improving research productivity. Hence, the study was conducted to investigate the teacher's research competence of selected SUCs in the Philippines. The study used a descriptive survey method of research. Data were taken from 147 teachers of different SUCs and were analyzed and interpreted using a statistical mean. The study revealed that teachers are much competent in doing research. Besides, their attitudes were optimistic despite the difficulties they have encountered in doing research works. Furthermore, it was found out that most teachers are motivated in doing researches for various reasons. Hence, the paper concluded that most teachers exceed some expectations in being a researcher and strive to conduct research despite the challenges. However, the paper recommended that further research capability programs are implemented and various avenues and opportunities for teachers to be presented to continue to engage themselves with research and further help society and the country.

Keywords: competence, engagement, research programs

1. Introduction

Nowadays, research has been categorized as a key for developing countries. Meanwhile, with the challenge of globalization in education, teachers need to improve knowledge and skills to enhance, improve and explore their teaching practices. Many studies on teachers' competencies focus on the teachers' role in the classroom rather than teachers' competencies. Teachers' competencies have been broadening concerning reform studies in education, development of teacher education, scientific results of educational science, and other fields. The goals of education change very quickly in response to the demands of the era, which require more capability[1]. These demands have a direct impact on the educational system. Teachers are in charge of running the educational system, so they must have strong and efficient professional competencies[2].

Competencies are the set of knowledge, skills, and experience necessary for the future, which manifests in activities. It was also described as representing skills, attitudes, values, motivations, and beliefs people need to succeed. Meanwhile, research competencies are competencies of research methods and techniques, designing and carrying out research in teacher. They support collaboration with colleagues and other specialists or people who are interested in curriculum studies and education. Research competencies are influential for teachers in following the developments in their fields and developing themselves based on these developments[3]. Besides, the research competencies of teachers are of great importance for students in gaining scientific thinking and scientific process skills. The research competencies help improve teachers' competencies and support research-based teacher education that is a new approach in teacher education[4].

On the other hand, research engagement is one of the vehicles that are always open to teachers for professional development. It influences professional development by increasing the number of teaching plans, educational objectives, teaching strategies, and teacher's knowledge of what was being taught[5]. As classroom managers, they can create and manage positive esteem within the organization because of the value of

recognition[6]. There is a virtuous cycle in faculty's performance when the pre-conditions of engagement are met. Likewise, organizations engaged in research have strong and authentic values with clear evidence of trust and fairness in their deeds.

Research refers to the process of generating, discovering, inventing, and creating new knowledge. In universities, research is one of the critical tools in academic achievement and excellence. It is considered an indispensable means for colleges and universities to discover or learn about the success of students and departments, tracer alumni, recruit new students, hire new faculty, and much more. Research is also one of the standards of accreditation in assessing the development of competent professionals. Likewise, in evaluating programs and institutions relative to certification, the research element is one of the areas being assessed by the accreditors. It concretizes the ability of a university to produce research that would generate knowledge for the productivity of the institutions. In academic institutions, the academic reputation of the professor lies in their ability to investigate scientifically, come up with new ideas, knowledge, and discoveries that will improve existing practices, processes, and strategies.

In the United States, public research institutions have a distinct and necessary role to play. In addition to scholarships, public research institutions give economic growth and technical aid to their communities, states, and nation, as well as the potential for anchor-institution cooperation [7]. While other institutions may fulfill these demands individually, public research universities are tasked with meeting them together in the most effective, efficient, and cost-effective manner feasible. In the Philippines, State Universities and Colleges responded in various ways to the call for a more robust research orientation among SUCs in response to Commission on Higher Education (CHED) policies and mandates to improve research productivity [8].

This study identified the research competence of teachers towards research engagement. Specifically, it determined the respondents': a) level of competency in writing a research paper; b) level of attitudes towards research engagement; c; and d) to propose an intervention plan based on the findings of the study. The results of the study may be a basis for the development of an intervention program aimed to enhance the research competence of teachers. Besides, the study may pose great importance in developing teachers' research competence that may improve curricula and education quality. Furthermore, it was emphasized that competent researchers are needed within the fields of education [9]. These results may contribute to the development of capable researchers within the fields of education.

2. Objectives of the Study

This study generally endeavors to determine the level of teachers' competence towards research engagement in Camarines Sur, Philippines. Specifically, it aims to determine the respondents': a) level of competency in writing a research paper; b) level of attitudes towards research engagement; c) motivations towards research and difficulty & non-difficulty in conducting research.

3. Materials and Methods

The research study adopted a descriptive survey method. The respondents of the study are randomly identified faculty members of different state universities and colleges in Camarines Sur. Slovin's formula determined the sample size of the study.

The competency of the teachers in research, in terms of research capability, attitudes towards research, motivation towards research, and difficulty and non-difficulty on research, were measured using a customized questionnaire.

The first part of the questionnaire is about the respondent's profile such as name, age, gender, marital status, academic rank, length of teaching experience, and school affiliation. The second part of the questionnaire dealt with statements that measure their research competence. These statements are grouped according to knowledge, skills, and attitudes. The respondent is asked to rate each statement according to his perception.

Then, the researcher distributed the questionnaires to the participants of the study and retrieved them. Upon retrieval, the data gathered are encoded, tallied, interpreted, and analyzed using SPSS.

4. Results and Discussion

Higher education institutions, such as SUCs, with their mandate to provide quality education, have pursued research by the institution and its faculty. Furthermore, various capability training to enhance the research competence of teachers were conducted and pursued. In the study, teachers' current competence towards research was evaluated.

Teacher's Capability in Research. In the study teacher's capability in research was determined along with

Teachers' Competence towards Research Engagement: The Case of Camarines Sur, Philippines

the research topic, conducting literary study or review of literature, writing the research paper proposal, conduct of data gathering, making research report, defend the research result, and adhering to research ethics.

Presented in table 1 is the teachers' capability along with the research topic. Based on the results, teachers are very competent in phrasing the research topic in a well-defined manner with a mean of 4.23, indicating that teachers consistently exceeded expectations in this role. Meanwhile, with the least mean of 3.20, teachers are much competent in choosing a research topic of current importance, indicating that teachers are met most and exceed some of the expectations in this role. Overall, teachers are much competent along with the research topic with a mean of 4.05. These results indicate that teachers in Camarines Sur, Philippines met most and exceeded some expectations in defining and identifying the research topic with current importance. Besides, the result also indicates that teachers know how to identify a topic for research and explore it[10].

In the teachers' capability along with the conduct of literary study/review of literature. Based on the results presented, teachers are competent in all of its indicators, demonstrating that teachers mostly met and exceeded expectations for their role in this part of the research. However, it can be seen that the indicator "Identify, critique, and apply strategies for conceptualizing and operationalizing research variables" is with the least mean of 3.99.

Besides in teacher's capability in writing research proposal results shows that teachers are competent with identifying and critique research methods for appropriateness in a given study with a mean of 3.29 and establishing the correct research methodology with a mean of 3.38, which indicates that teachers met the majority of the expectations in this part of the research process. Meanwhile, using sound and consistent methods to conduct data gathering activities ethically have the highest mean among the indicators with 4.08 mean, which is described as much competent and indicates that teachers met most and exceed some of the expectations in this role. Overall, teachers are much skilled in writing a research proposal with an average mean of 3.73.

Along with the data gathering, teachers are much competent, with a mean of 3.80. Teachers are skilled at documenting related data. They have a knack for data collection and activities that relate to data coding and entry. They can utilize appropriate data analysis techniques consistent with the purpose and design of a study. They can interpret and synthesize the findings in light of the existing literature and theoretical framework and identify relevance for practice and future research with a mean of 3.97, 3.54, 3.60, and 4.09. These results indicate that teachers met most and even exceeded expectations in conducting the data gathering in research.

In making a research report, teachers are much competent with maintaining internal consistency through all the chapters with a mean of 4.12, labeling each variable in your report with a term that describes only what it measures (4.03), emphasizing important information (4.08), writing the research report in lucid and straight language, which clearly express what is intended to be expressed (3.97), organizing the research results logically (3.94).

Lastly, in defending the research result, teachers are much competent in presenting their research may it be in posters, conferences, or seminars and submitting the papers for publication with a mean of 3.97 and 3.94, respectively. However, they are only competent in applying for patenting of technological advances of the research study with a mean of 2.97.

This result ties well with a study wherein research capability is assessed based on how well an academician conducts the process in research adhering to the research ethics and respecting the confidentiality of its subjects[11].

Table I. Teachers' Capability in Research

| PARAMETERS | MEAN | DESCRIPTION |
|--|-------------|-----------------------|
| A. Research topic | | |
| Phrase the research topic in a well-defined manner. | 4.23 | very much competent |
| Choose a research topic that is directional and set the whole research methodology. | 3.90 | much competent |
| The chosen research topic is of current importance. | 3.97 | much competent |
| The language of the research topic is simple. | 3.98 | much competent |
| The research topic should be specific. | 4.20 | much competent |
| Average | 4.05 | Much competent |
| B. Literary Study / Review of Literature | | |
| Decide on the scope of your review. | 4.13 | much competent |
| Use effective search strategies and critical evaluation of the scientific literature | 4.10 | much competent |

| | | |
|--|-------------|-----------------------|
| Identify, critique, and apply strategies for conceptualizing and operationalizing research variables | 3.99 | much competent |
| Collect, evaluate and select literature | 4.09 | much competent |
| Find connections and themes | 4.14 | much competent |
| Plan the literature review's structure | 4.08 | much competent |
| Write the literature review | 4.13 | much competent |
| Average | 4.09 | Much competent |
| C. Writing a Research Proposal | | |
| Establishing the correct research methodology | 3.38 | competent |
| Identify and critique research methods for appropriateness in a given study | 3.29 | competent |
| Use sound and consistent methods to conduct data gathering activities ethically | 4.08 | much competent |
| Develop appropriate instrument/s for Effective Research | 3.92 | much competent |
| Identify the points of triangulation/s in data collection | 3.99 | much competent |
| Average | 3.73 | Much competent |
| D. Data Gathering | | |
| Document related competencies with primary data collection, including activities relating to data coding and data entry | 3.97 | much competent |
| Utilize appropriate data analysis techniques consistent with the purpose and design of a study | 3.54 | much competent |
| Interpret and synthesize the findings in light of the existing literature and theoretical framework | 3.60 | much competent |
| Identify relevance for practice and future research | 4.09 | much competent |
| Average | 3.80 | Much competent |
| E. Making Research report | | |
| Maintaining internal consistency through all the chapters | 4.12 | much competent |
| Label each variable in your report with a term that describes only what it measures. | 4.03 | much competent |
| Emphasizes important information. | 4.08 | much competent |
| The research report shall be written in a lucid and straight language, clearly expressing what is intended to be conveyed. | 3.97 | much competent |
| Organize the research results logically. | 3.94 | much competent |
| Average | 4.03 | Much competent |
| F. Defend research result | | |
| Presenting your research – Posters – Conferences/seminars | 3.97 | much competent |
| Submit papers for publication. | 3.94 | much competent |
| Apply for patenting of technological advances of the research study. | 2.97 | competent |
| Average | 3.62 | Much competent |

Legend: 4:21-5:00 Very Much Competent; 3:41 - 4:20 Much Competent; 2.61 -3.40 Competent; 1.81 - 2.60 Fairly Competent; 1-1.80 not competent

Besides, the results are similar to another study where it was found out that a high level of research competence is equivalent to teachers having knowledge of concepts, methods, systematic use of digital technologies for scientific research; and mastery of skills in working with scientific literature and the ability to compile bibliographic lists[12].

Attitude towards Research. Presented in Table 2 is the teacher's attitude towards research. Teachers strongly agree that conducting research is useful for their teaching and is difficult to conduct with a mean of 4.22 and 4.20, respectively. Furthermore, they also agree that they benefit from conducting research (3.89), research is indispensable in their professional training (3.89), conducting research is stressful (3.89), have an interest in conducting action research (3.91), research makes them anxious (3.99), loves to conduct research (4.18), they enjoy conducting a research (3.97).

This result indicates that despite conducting research is difficult, stressful, and anxious; teachers still do research since it is valuable and indispensable in their professional training and career. Furthermore, it can also be noted that some teachers love and enjoys conducting research[10].

Table II. Teacher's Attitude Towards Research

| PARAMETERS | MEAN | DESCRIPTION |
|---|-------------|----------------|
| 1. Research is useful for my teaching. | 4.22 | Strongly Agree |
| 2. I will benefit from conducting action research. | 3.89 | Agree |
| 3. Research is indispensable in my professional training. | 3.89 | Agree |
| 4. To conduct research is stressful. | 3.89 | Agree |
| 5. Research is difficult to conduct. | 4.20 | Strongly Agree |
| 6. I have an interest in conducting research. | 3.91 | Agree |
| 7. Research makes me anxious. | 3.99 | Agree |
| 8. I love to conduct research. | 4.18 | Agree |
| 9. I enjoy conducting research. | 3.97 | Agree |
| AVERAGE | 4.02 | Agree |

Legend: 4:21-5:00 Strongly Agree; 3:41 - 4:20 Agree; 2.61 -3.40 Undecided; 1.81 - 2.60 Disagree; 1-1.80 Strongly Disagree

Motivation towards Research. Presented in table 3 is the teacher's motivation towards conducting research works. Teachers strongly agree that research enhances my chance for career promotion (4.25), like to publish research findings in research journals (4.24), like to participate and be recognized in the research congress (4.23), and have a passion for the discovery of new knowledge (4.24). Meanwhile, they agree that research enhances my teaching efficiency (4.13), their school head expects them to come up with research by the end of the year (4.07), most of their co-teachers have conducted or planned to conduct action research (4.02), their school head recognizes their commitment in conducting research works (4.07) find research as an interesting and meaningful educational practice (3.91), Research allows me to come out financially ahead (3.65) and like to demonstrate to my peers that the conduct of research is not that difficult (3.97).

These results indicate that teachers were motivated to conduct research because of its importance in enhancing their career, liking to publish in research journals, participating and being recognized in research congress, and especially their passion for discovering new knowledge. These results are consistent with the findings of a cross-sectional survey of hospitalpharmacists, where it was found out that despite the presence of several barriers, the respondents had a fair positive attitude, good perceptions, increased motivation, and willingness towards the practice of research [13].

Table III. Teacher's Motivation towards Research

| PARAMETERS | MEAN | DESCRIPTION |
|---|------|----------------|
| 1. Research enhances my chance for career promotion. | 4.25 | Strongly Agree |
| 2. Research enhances my teaching efficiency. | 4.13 | Agree |
| 3. My school head expects me to come up with research by the end of the year. | 4.07 | Agree |
| 4. Most of my co-teachers have conducted or planned to conduct action research. | 4.02 | Agree |
| 5. My school head will recognize my commitment to | 4.07 | Agree |

| | | |
|---|-------------|----------------|
| conducting research works. | | |
| 6. Like publishing research findings to research journals. | 4.24 | Strongly Agree |
| 7. Find research as an interesting and meaningful educational practice. | 3.91 | Agree |
| 8. Likes to participate and be recognized in the research congress. | 4.23 | Strongly Agree |
| 9. Research allows me to come out financially ahead. | 3.65 | Agree |
| 10. Like to demonstrate to my peers that the conduct of research is not that difficult. | 3.97 | Agree |
| 11. Have a passion for the discovery of new knowledge. | 4.24 | Strongly Agree |
| Average | 4.05 | Agree |

Legend: 4:21-5:00 Strongly Agree; 3:41 - 4:20 Agree; 2:61 -3:40 Undecided; 1:81 - 2:60 Disagree; 1-1.80 Strongly Disagree

Difficulty and Non-difficulty in conducting Research. Presented in table 4 is the difficulty and non-difficulty of teachers in doing research. Teachers find it difficult in developing the processes of how to do research and collect evidence of research (3.97), analyzing quantitative data (3.93) and (4.08), organizing and writing the findings (4.13) and making a relevant presentation on my project and write an article for publication (4.07) and have a slight difficulty in identifying issues and problems to be investigated by the research (2.34). Meanwhile, they don't find any difficulty in using technology in literature search (1.65), data presentation (1.76), statistical analysis (1.45), bibliographical entries (1.63). Overall, teachers find it difficult to do research.

Table 4. Difficulty or Non-difficulty of

| PARAMETERS | MEAN | DESCRIPTION |
|---|------|--------------------|
| 1. Identifying issues and problems to be investigated | 2.34 | Slightly Difficult |
| 2. Searching for relevant literature on the chosen topic | 3.20 | Neutral |
| 3. Developing the processes of how to do research and collect evidence of research. | 3.97 | Difficult |
| 4. Analyzing quantitative data. | 3.93 | Difficult |
| 5. Analyzing qualitative data. | 4.08 | Difficult |
| 6. Organizing and | 4.13 | Difficult |

| | | |
|---|-------------|----------------------|
| writing the findings. | | |
| 7. Making a relevant presentation on my project and write an article for publication. | 4.07 | Difficult |
| 8. Using technology in a literature search. | 1.65 | No difficulty at all |
| 9. Using technology in data presentation. | 1.76 | No difficulty at all |
| 10. Using technology in statistical analysis. | 1.45 | No difficulty at all |
| 11. Using technology in bibliographical entries. | 1.63 | No difficulty at all |
| Average | 2.92 | Difficult |

Legend: 4:21-5:00 Very Difficult; 3:41 - 4:20 Difficult; 2.61 -3.40 Neutral; 1.81 - 2.60 Slightly Difficult; 1-1.80 No difficulty at all

These results indicate that teachers face some difficulties in doing research; however, they are still motivated to do it since it provides them with career enhancement opportunities. It also widens their knowledge in different areas. Besides, despite the difficulties they encountered, some teachers have a passion for research and discovery of new knowledge, which are their motivations in conducting research works. These results align with a study wherein students and teachers have presented the challenges they have encountered in conducting research based on their experience[14]. They also emphasize that even with difficulties, it cannot be denied that research skills are beneficial for an individual.

5. Conclusion And Recommendation

Despite the policies and mandates of the Commission of Higher Education (CHED) geared towards the improvement of research productivity and varied responses to the call for a more substantial research orientation among State Universities and Colleges (SUCs) in the Philippines, the study revealed that teachers are much competent in doing research. Besides, their attitudes were optimistic despite the difficulties they have encountered in doing research works. Furthermore, it was found out that most teachers are motivated in doing researches for various reasons. Hence the paper concluded that the teachers I met most exceeded some expectations in being a researcher and, despite the challenges, strive to conduct research. However, it was recommended that further research capability programs be implemented and various avenues and opportunities for teachers to be presented to continue to engage themselves with research and further help society and the country

References

- [1] and Y. B.-Y. Miriam Bar-Yam, Kathleen Rhoades, Linda Booth Sweeney, Jim Kaput, "Complex Systems Perspectives on Education and the Education System," *Engl. Complex Syst. Inst.*, 2002.
- [2] P. D. Tucker and J. H. Stronge, *Linking teacher evaluation and student learning*, vol. 43, no. 08. 2006.
- [3] K. Selvi, "Teachers' competencies," *Cult. Int. J. Philos. Cult. Axiolog.*, vol. 7, no. 1, pp. 167–175, 2010, doi: 10.5840/cultura20107133.
- [4] D. Alvunger and N. Wahlström, "Research-based teacher education? Exploring the meaning potentials of Swedish teacher education," *Teach. Teach. Theory Pract.*, vol. 24, no. 4, pp. 332–349, 2018, doi: 10.1080/13540602.2017.1403315.

- [5] INVOLVE, "Research engagement and impact," Pathways through Particip., 2011, [Online]. Available: https://libguides.usc.edu.au/research_engagement.
- [6] K. Sieberer-Nagler, "Effective Classroom-Management & Positive Teaching," *English Lang. Teach.*, vol. 9, no. 1, p. 163, 2015, doi: 10.5539/elt.v9n1p163.
- [7] American Academy of Arts & Sciences, "Public Research Universities: Why They Matter," 2015.
- [8] Commission on Higher Education (CHED), Republic Act No. 7722 Higher Education Act of 1994. 1994, pp. 1–16.
- [9] J. M. Swank, A. Houseknecht, and R. Liu, "Development of the teaching competencies scale," *Assess. Eval. High. Educ.*, vol. 46, no. 3, pp. 483–493, 2021, doi: 10.1080/02602938.2020.1778634.
- [10] A. Kostoulas, S. Babić, C. Glettler, A. Karner, S. Mercer, and E. Seidl, "Lost in research: educators' attitudes towards research and professional development," *Teach. Dev.*, vol. 23, no. 3, pp. 307–324, 2019, doi: 10.1080/13664530.2019.1614655.
- [11] J. Mooney-Somers and A. Olsen, "Ethical review and qualitative research competence: Guidance for reviewers and applicants," *Res. Ethics*, vol. 13, no. 3–4, pp. 128–138, 2017, doi: 10.1177/1747016116677636.
- [12] M. P. Leshchenko, A. M. Kolomiiets, A. V. Iatsyshyn, V. V. Kovalenko, A. V. Dakal, and O. O. Radchenko, "Development of informational and research competence of postgraduate and doctoral students in conditions of digital transformation of science and education," *J. Phys. Conf. Ser.*, vol. 1840, no. 1, 2021, doi: 10.1088/1742-6596/1840/1/012057.
- [13] M. R. Sarwar, A. Saqib, T. Riaz, H. Aziz, M. Arafat, and H. Nouman, "Attitude, perception, willingness, motivation and barriers to practice-based research: A cross-sectional survey of hospital pharmacists in Lahore, Punjab, Pakistan," *PLoS One*, vol. 13, no. 9, 2018, doi: 10.1371/journal.pone.0203568.
- [14] A. Patlins, "Research the phenomenon of motivation, towards to science, through effective teaching, learning, research and scientific writing as the approach for improvement of electrical and power engineering education," 2018, doi: 10.1109/RTUCON.2018.8659815.