

# Competence Levels and Encountered Challenges among Public School Teachers in Research Design and Development

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## Abstract

The study assessed the competence level and challenges encountered by public school teachers in conducting research in rural communities in Leyte Philippines. It examined factors such as age, sex, civil status, educational attainment, designation, field of specialization, length of service, and research trainings attended. The respondents were licensed teachers in education representing various fields of specialization. The study employed quantitative design, with data collected through a validated questionnaire administered to 80 teacher respondents. Findings revealed that the majority of the respondents were female and had obtained units toward advance degree aligned to their field of specialization in education. Furthermore, the results indicated that the respondents are moderately competent (2.65) in research design and development. Challenges related to research construction were moderately felt by the teachers, suggesting a need for institutional support to strengthen teachers' research capabilities. This suggests that schools may provide targeted research training and seminars to help enhance teachers' skills in research construction. Moreover, most demographic variables had no significant association with research competence; however, the field of specialization showed a significant relationship, implying that certain disciplines may be more conducive to or aligned with research engagement. To address these gaps, school administrators are encouraged to provide institutional support by fostering a research-oriented environment through mentorship programs, professional development workshops, and collaborative initiatives. Finally, future researchers may explore intervention strategies that bridge the gap between research engagement and practice, particularly by examining the role of school leadership, institutional support, and incentive mechanisms in promoting research culture among public school teachers.

**Keywords:** competence level; competency needs; institutional support; research-based education; research engagement;

## Introduction

In the era of knowledge-based economies, research is a vital skill for Teachers. Fleetwood (2024) stated that research is the careful consideration of study regarding a particular concern or research problem using scientific methods. It is a systematic inquiry to describe, explain, predict, and control the observed phenomenon.

The Department of Education with its adoption of the Basic Education Research on Agenda (DepEd Order No. 39, s. 2016) stated that it plays a significant influence of research on the professional development of teachers and overall improvement of schools. This study looks at the ways that research can improve curriculum development,

encourage a culture inquiry, and shape teaching methods in order to emphasize the transformational potential of research in influencing educational results.

Republic Act 1173 known as “Excellence in Teacher Education Act” Section 6, mandated the teachers to facilitate and manage collaborative research on specific areas of inquiry within the field, providing a foundation for enhancing teacher education programs, policies, standards, and guidelines.

Kananga National High School is a public school located at National Highway, Municipality of Kananga, Leyte District 1. There were many junior high school teachers who is not motivated to conduct research. A number of studies reported, according to Ulla (2018), one of the reasons some teachers will not conduct research is due to a lack of financial support, heavy teaching load, lack of research skills, and lack of research materials and sources including of how anxiety affects the experience of master teachers. Research construction has become one of the most challenging tasks to most of the teachers, especially because it has been an additional work to them.

Based on the forgoing discussion, in region 8 at Kananga, Leyte it consists of 3 schools and the researchers selects the biggest school which is the Kananga National High School because the total number of teachers and respondents are accessible.

The findings of this study will provide significant information into the current competence level of public school Teachers and the challenges they faced in research construction. These will also help identify areas of improvement in teacher training programs in terms of research literacy, provide recommendations such as training workshops to enhance research skills, and gather funds to provide for research activities.

## Methods

**Design.** The researchers employed a descriptive research design to gather information about the current status of the phenomenon and to describe “what exists” with respect to specific variables or conditions in the given context. This approach is particularly useful for understanding and presenting the characteristics of a population or situation without manipulating any variables. Additionally, the study utilized a quantitative method, which involves the collection of numerical data that can be organized, analyzed, and interpreted statistically. This may include measurable data such as test scores, frequencies, or categorizations based on demographic variables like gender or field of specialization.

However, the variable “number of research conducted over the last five years” was excluded from the data analysis, as only two out of 80 respondents reported prior involvement in conducting a research study. This extremely low response rate indicates a lack of variability in the data, rendering it statistically insignificant for further analysis. Including this variable would not have provided meaningful insights or valid comparisons. Nevertheless, the absence of research experience among the vast majority of respondents is a significant finding. It underscores a broader issue in research engagement and dissemination among public school teachers, which may be attributed to limited training opportunities, lack of mentorship, and insufficient institutional support.

**Research Respondents.** The respondents consisted of Junior High School teachers from Kananga National High School, located in Kananga District 1 along the National Highway in the Municipality of Kananga, Leyte. Out of 100 teachers, 80 participated and successfully returned the questionnaires during the data collection period, representing 80% of the total population. These respondents, who came from various fields of specialization, were selected using purposive sampling, as they were considered relevant and accessible sources of information regarding the challenges encountered in research construction.

## Results and Discussion

### Profile of the Respondents

The profile of the respondents is shown in this section with regard to their age, sex, civil status, designation, field of specialization, length of service, and research training attended.

Table 1

## Frequency and Percentage Distribution in terms of Sex, Age, Civil Status, and Educational Attainment

Profile Variables	Frequency	Percentage %
Age		
50 years old and above	5	6.20
40-49 years old	8	10.00
30-39 years old	40	50.00
29 years old below	27	33.80
<b>Total</b>	<b>80</b>	<b>100.00</b>
Sex		
Female	57	71.30
Male	23	28.70
<b>Total</b>	<b>80</b>	<b>100.00</b>
Civil Status		
Single	23	28.70
Married	52	65.00
Widow/ separated	5	6.30
<b>Total</b>	<b>80</b>	<b>100.00</b>
Educational Attainment		
With M.A. Units	38	47.50
Baccalaureate Degree	27	33.70
Master's Degree	15	18.80
<b>Total</b>	<b>80</b>	<b>100.00</b>

Table 1 presented the results of the demographic profile in terms of age, sex, civil status, and educational attainment. Majority of teachers were aged 30 to 39 years, with a frequency of 40 or 50 percent which suggests that teachers within this age group are actively engaged in research activities. Followed by those teachers aged 29 years and below, with a frequency of 27 or 33.80 percent which indicates that teachers at this age are motivated to conduct research. Meanwhile, the lowest frequency is composed of teachers aged 50 years and above, with a frequency of 5 or 6.20 percent, which reflects that educational and research opportunities tend to decline with age. This result is aligned with the study of Cruz et al. (2022), which highlighted those instructors in this age range are more engaged in research due to institutional support and to increase career stage. Furthermore, as the age of the teacher continues to increase, their access to educational opportunities will also decline, frequently due to socioeconomic position and retirement (Wu et al., 2021).

In addition, out of eighty respondents, 57 were female or 71.30 percent and 23 were male or 28.70 percent which reflects those females usually conduct research studies compared to male. This supports the findings of Douglas et al. (2020), which indicate that female teachers are more likely to be motivated to conduct research and to

employ deeper learning practices. Male educators, on the other hand, will engage in research for job development (Cruz, 2022).

In terms of civil status, 52 respondents or 65 percent were married, which suggests that married teachers may sometimes engage in research but are often limited by familial obligations. The second highest frequency were single respondents with a frequency of 23 or 28.70 percent, which reflects those single teachers may have more time and flexibility to participate in research activities. Moreover, the lowest frequency of respondents was widowed or separated, with a frequency of 5 or 6.30 percent which indicates that their research engagement will be limited due to family responsibilities. This is validated by the research findings by Alcantara (2020) which found that teachers' capacity to manage their personal and professional lives may be impeded by family obligations, hence reducing their involvement in research. On the other hand, this is also consistent with the findings of Johnson and Lee (2019), who discovered that increased research involvement is frequently correlated with reduced family duties. The majority of respondents are married, according to these statistics, which can have an impact on their involvement in research projects.

Furthermore, in terms of educational attainment, majority of respondents, 47.50 percent, had obtained academic units toward a Master of Arts, which reflects that they are active in conducting research due to their new knowledge. This is followed by those who earned a baccalaureate degree, accounting for 33.70 percent, indicating that they also participate in research activities to increase their position in the institution. On the other hand, 18.80 percent of the respondents have completed a full master's degree which reflects that research competency among teachers is relevant to their educational achievement which aligns to the study of Cruz & Reyes (2024) which concluded that advanced degree holders are more likely to conduct research and use the results in their teaching compared to teachers in less research-intensive professions.

**Table 2 Frequency and Percentage Distribution in Terms of Designation, Field of Specialization and Length of Service**

Profile Variables	Frequency	Percentage %
Designation		
Teacher I	24	30.00
Teacher II	6	7.50
Teacher III	27	33.80
Master Teacher I	11	13.70
Master Teacher II	12	15.00
<b>Total</b>	<b>80</b>	<b>100.00</b>
Field of Specialization		
Math	24	30.00
TLE	22	27.50
English	2	2.50
MAPEH	3	3.80
Filipino	1	1.20
Science	27	33.80
Araling Panlipunan	1	1.02
<b>Total</b>	<b>80</b>	<b>100.00</b>

Length of Service		
25 years and above	5	6.20
16 years-24 years	4	5.00
6 years-15 years	62	77.50
0-5 years	9	11.30
<b>Total</b>	<b>80</b>	<b>100.00</b>

Table 2 presented the results for designation, field of specialization, and length of service. Majority of the teachers were Teacher III with a total of 27 or 33.80 percent which indicated that these teachers are actively participating in research construction as part of their doctorate studies. Followed by Teacher I, which had a frequency of 24 or 30 percent which reflects that research is part of their responsibilities as professional teachers. On the other hand, Teacher II had the lowest frequency, with a total of 6 or 7.50 percent. These results are relevant with the study of Czerniawski (2023), which found that senior instructors usually participate in conducting research as part of their doctoral studies which reflected their multiple roles as researchers and educators.

On the other hand, Majority of the specialized field is Science with a percentage of 33.80 percent which indicates that Science teachers actively engage in research to address the needs of their students. Followed by Mathematics, with a total of 30 percent which reflects that Math teachers also show strong involvement in research activities. The lowest frequency was those teachers who specialized in Filipino and Araling Panlipunan, with only 1.20 percent which suggest that teachers who specialize in these subjects have less motivation to conduct research. The results are relevant to the research findings by Reyes and Salazar (2021), who conducted and analysed the association between teacher specialization and curricular success in Philippine universities. Their findings revealed that when teachers' specializations fit with the curriculum, teachers are more engaged and better prepared to tackle complicated research challenges.

In terms of length of service, majority of respondents, 62.20 percent, have worked in the profession for 6 to 15 years which indicates that they are capable to guide students in conducting research. Followed by those with 0 to 5 years of service with a total of 11.30 percent, which implies that new teachers are actively engage in research activities to enhance student development. The lowest frequency with a total of 5 percent or 4 respondents is composed of teachers with 25 years or more of service, which reflects those teachers do not have enough time on research activities. These findings align with the study of Alonzo and Mercado (2019) which discovered that teachers with more than ten years of experience provide an effective mentorship to students involved in research projects, particularly in areas such as topic selection, methodology design, and data analysis.

**Table 3 Percentage Distribution of Research Training Attended**

Profile Variables	Frequency	Percentage %
Research Training Attended		
1-3	65	81.30
4-5	10	12.50
6-8	4	5.00
9 or more	1	1.30
<b>Total</b>	<b>80</b>	<b>100.00</b>

Table 3 presented the findings of the number of research trainings attended and the number of research studies conducted by teachers. Most of the respondents or 81.30 percent, had attended only one to three research trainings

which indicated that they must attend more research training to enhance their capability in conducting research studies. This is followed by 12.50 percent of teachers who had attended four to five trainings which suggested the importance of additional exposure to research to better understand current educational phenomena. Only 1.30 percent of the teachers had attended nine or more research trainings, highlighting that very few have had extensive training in research construction. This finding is relevant with a study by Reyes and Alonzo (2020), which concluded that teachers who engage in many research trainings are capable and knowledgeable of current trends and best practices in their domains.

**Table 4 Competence Level of Respondents in Research Construction**

<b>Problem Conceptualization</b>	<b>Mean</b>	<b>Interpretation</b>
1. Identifying researchable problems	2.86	Moderately Competent
2. Defining research problems clearly	2.75	Moderately Competent
3. Constructing logical and comprehensive research framework	2.72	Moderately Competent
4. Formulating appropriate research hypothesis	2.65	Moderately Competent
5. Citing and discussing theories relevant to the study	2.81	Moderately Competent
6. Selecting literature with highest degree of relevance	2.58	Moderately Competent
<b>Category Mean</b>	<b>2.73</b>	<b>Moderately Competent</b>

<b>Review of Related Literature</b>		
1. Selecting literature with highest relevance	2.8	Less Competent
2. Locating relevant information sources	2.65	Moderately Competent
3. Conducting an exhaustive review of literature	2.81	Moderately Competent
4. Adopting scientific procedures in reviewing literature	2.54	Moderately Competent
5. Writing an organized review of literature	2.66	Moderately Competent
<b>Category Mean</b>	<b>2.69</b>	<b>Moderately Competent</b>

<b>Methodology</b>		
1. Formulating appropriate research design	2.65	Moderately Competent
2. Identifying appropriate population and samples	2.64	Moderately Competent
3. Developing valid and reliable research instruments	2.8	Moderately Competent
4. Securing permission to conduct research	2.72	Moderately Competent
5. Administering data gathering tools properly	2.71	Moderately Competent
6. Using statistical tools for data analysis	2.69	Moderately Competent

7. Interpreting research data correctly	2.66	Moderately Competent
<b>Category Mean</b>	<b>2.7</b>	<b>Moderately Competent</b>

<b>Data Analysis and Interpretation</b>		
1. Summarizing data accurately	2.89	Moderately Competent
2. Presenting data logically	2.78	Moderately Competent
3. Interpreting data based on objectives	2.81	Moderately Competent
4. Drawing conclusions supported by data	2.68	Moderately Competent
<b>Category Mean</b>	<b>2.79</b>	<b>Moderately Competent</b>

<b>Taking Action</b>		
1. Identifying appropriate actions based on research	2.66	Moderately Competent
2. Applying research findings to practice	2.54	Less competent
3. Making decisions based on data analysis	2.49	Less competent
4. Implementing solutions based on research results	2.46	Less competent
5. Evaluating the effectiveness of actions taken	2.61	Moderately Competent
<b>Category Mean</b>	<b>2.55</b>	<b>Less Competent</b>

<b>Writing the Research</b>		
1. Organizing the research report logically	2.73	Moderately Competent
2. Writing clear and concise abstracts	2.47	Less competent
3. Describing research methodology clearly	2.7	Less competent
4. Presenting findings in an understandable manner	2.54	Less competent
5. Discussing implications based on findings	2.59	Less competent
6. Properly citing references	2.82	Moderately Competent
7. Following appropriate report formats	2.48	Less competent
<b>Category Mean</b>	<b>2.62</b>	<b>Moderately Competent</b>

<b>Publication of Research</b>		
1. Preparing manuscript for publication	2.54	Less competent
2. Publishing research in recognized journals	2.41	Less competent
<b>Category Mean</b>	<b>2.48</b>	<b>Less Competent</b>
<b>Overall Mean</b>	<b>2.65</b>	<b>Moderately Competent</b>

The findings indicate that the respondents are moderately competent in research construction, with an overall mean score of 2.65. Specifically, they demonstrated moderate competence in key areas such as Problem Conceptualization, Methodology, Data Analysis and Interpretation, Review of Related Literature, and Writing the Research. These results suggest that the respondents possess a solid foundational understanding of the research process, from formulating research problems to analyzing and presenting data. However, the results also reveal notable areas of weakness. The lowest competence levels were found in Taking Action, with a mean of 2.55, and Publication of Research, with a mean of 2.48. These scores indicate that respondents face challenges in effectively applying research findings in practical contexts and in disseminating their work through recognized academic journals.

These findings highlight a need for targeted training and professional development in research utilization and publication to enhance the overall research competence of the group.

In particular, difficulties in interpreting data and drawing actionable insights were evident, aligning with the findings of Oestar and Marzo (2022), who noted that teachers in research often lack confidence in their research techniques, particularly in data analysis and interpretation.

In contrast, areas interpreted as moderately competent included Problem Conceptualization with a mean of 2.73, Review of Related Literature with a mean of 2.69, Methodology with a mean of 2.70, and Data Analysis and Interpretation with a mean of 2.79. This suggests that respondents demonstrated a basic but developing capacity to define research problems, conduct literature reviews, design and implement research methods, and analyze findings. However, while many teachers have attended research-related training sessions, the effectiveness of these programs in enhancing actual research competence remains questionable. As emphasized by Mejia and Salcedo (2020) and Roallos (2023), there is a need for more targeted and practical professional development programs that go beyond theory and directly address teachers' real-world research challenges.

Overall, the data revealed an Overall Mean of 2.65, interpreted as Moderately Competent. This indicates that while the respondents possess foundational research skills, they require further development, particularly in translating research outputs into actionable solutions and publishable work.

**Table 5 Distribution on the Challenges Encountered Towards Research Construction**

<b>Problems Encountered in Conduct of Research</b>	<b>Mean</b>	<b>Interpretation</b>
1. Lack of funding for research	2.85	Moderately Felt
2.Lack of time due to teaching loads	2.76	Moderately Felt
3.Limited access to references and literature	2.84	Moderately Felt
4.Lack of training on research methodology	2.74	Moderately Felt
5. Difficulty in data gathering	2.88	Moderately Felt

6. Lack of motivation to conduct research	2.86	Moderately Felt
7. Inadequate research facilities	2.92	Moderately Felt
8. Lack of administrative support	2.71	Moderately Felt
9. Low priority given to research	2.85	Moderately Felt
10. Lack of collaboration opportunities	2.74	Moderately Felt
11. Difficulty in publishing research outputs	2.78	Moderately Felt
12. Lack of incentives for research productivity	2.69	Moderately Felt
13. Difficulty in statistical analysis	2.71	Moderately Felt
14. Ethical considerations and approval process	2.72	Moderately Felt
15. Difficulty in writing the research report	2.95	Moderately Felt
<b>Grand Mean</b>	<b>2.80</b>	<b>Moderately Felt</b>

Table 5 presented the challenges of respondents towards research construction, revealing an overall Grand Mean of 2.80, interpreted as Moderately Felt. The most reported challenge was the large volume of writing involved mean = 2.95, followed by inadequate research facilities 2.92, and difficulty in data gathering 2.88, all indicating resource and access limitations. Other moderately felt issues included lack of motivation 2.86, low priority given to research 2.85, and lack of funding 2.85, emphasizing both internal and institutional barriers. These findings align with Ulla et al. (2017) and Santos & Bañares (2023), who noted that limited infrastructure, institutional support, and research expertise hinder educators’ research participation. The results suggest the need for institutions to provide stronger support through research trainings and capacity-building initiatives.

**Table 6 Age vs level of competence and Length of Service vs. Level of Competence**

		Level of Competence	Age
Table 6	Level of competence	Spearman’s rho	
		df	
		p-value	
Age		Spearman’s rho	-0.057
		df	54
		p-value	0.675
Length of service		Spearman’s rho	0.011
		df	54
		p-value	0.935
			-0.301
			78
			0.007

showed the relationship between age, length of service, and competence level, revealing no significant correlation between these variables and research competence. Specifically, the correlation between age and competence level

yielded a Spearman’s rho of 0.057, indicating a very weak relationship. This suggests that age does not significantly influence a respondent’s ability to construct research. These results are consistent with Johnson et al. (2020), who found no meaningful link between teachers’ age and research skills, and with Lee and Kim (2021), who noted that both older and younger teachers demonstrate similar levels of research competence.

**Table 7 Sex and Level of Competence**

x <sup>2</sup> Test	Value	Df	P
x <sup>2</sup>	25.6	31	0.740

Table 7 showed the association between sex and respondents’ competence level towards research construction. The p-value of 0.740 is larger than the P-critical value of 0.05, which means that there is no significant association between sex and respondents’ level of competence towards research construction. These results is aligned with the study of Lopez et al. (2021) which concluded that there is no correlation of sex with the research construction skills among high school teachers, implementing professional development opportunities and support from institutions plays a vital role in nurturing the research skills than gender.

**Table 8 Civil Status and Level of Competence**

x <sup>2</sup> Test	Value	Df	P
x <sup>2</sup>	60.4	62	0.534

Table 8 showed the correlation of civil status and competence level of respondents towards research construction. The p-value 0.534 is higher than 0.05, which indicates that there is no significant correlation of respondent’s civil status and competence level of respondents towards research construction. The findings is applicable to the research study done by Garcia et al. (2022) where no significant correlation between male and female teachers and their competence has been discovered.

**Table 9 Educational Attainment and Level of Competence**

x <sup>2</sup> Test	Value	Df	P
x <sup>2</sup>	52.7	62	0.794

Table 9 indicated the correlation of education and competence level of respondents in research construction. With a p-value of 0.794, which is greater than 0.05, it suggests that there is no significant correlation between the education and competence level in research construction. These results are aligned with the research of Chen and Zhao (2024) which concluded that educational degrees don’t contribute much to research proficiency except when accompanied by actual research activity and support from the institution.

**Table 10 Position Vs Level of Competence**

x <sup>2</sup> Test	Value	df	P
x <sup>2</sup>	2.38	4	0.667

		W	P
Teacher 1	Teacher 2	-0.386	0.999
Teacher 1	Teacher 3	1.534	0.815
Teacher 1	Master Teacher 1	-0.822	0.978

Teacher 1	5	-0.614	0.993
Teacher 2	Teacher 3	0.772	0.983
Teacher 2	Master Teacher 1	-0.185	1.000
Teacher 2	5	0.000	1.000
Teacher 3	Master Teacher 1	-1.724	0.741
Teacher 3	5	-0.950	0.963
Master Teacher 1	5	-0.548	0.995

Bar Graph

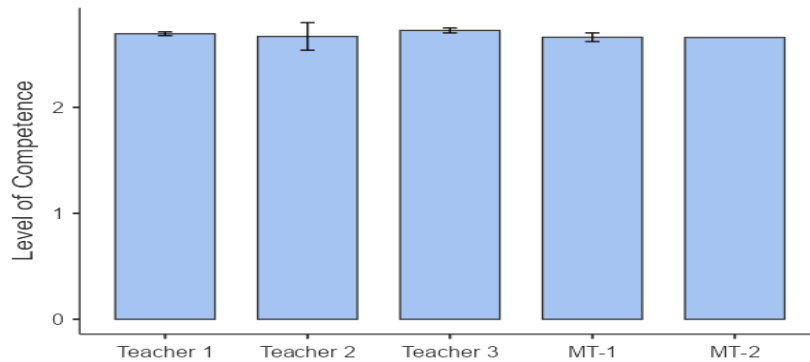


Table 10 indicated that there was no significant correlation between the respondents' designation or position and how competent they are in research construction, with a p-value of 0.667. Wilcoxon pair comparisons also did not indicate any significant differences between the teaching ranks. This suggested that research competence does not necessarily rely on professional rank, and promotion doesn't necessarily mean higher research proficiency. Therefore, professional development ought to be made equally accessible to all positions for consistent improvement. Although designation has no direct effect on competence, it can provide indirect benefits like increased access to research networks and resources. This finding aligned Matjašič and Vogrinc (2024) underscored the need for outlining and quantifying research competence clearly so that teachers could get the right support for enhancing their research competence.

Table 11 Field of Specialization Vs Level of Competence

x <sup>2</sup> Test	Value	df	P
x <sup>2</sup>	16.4	7	0.021

		W	P
English	Filipino	-2.5319	0.627
English	TLE	-3.1629	0.330
English	MAPEH	-0.5140	1.000
English	Mathematics	-1.4145	0.975
English	Science	-2.7618	0.514
English	Social Studies	-2.1070	0.813

English	Values	-0.7663	0.999
Filipino	TLE	0.0700	1.000
Filipino	MAPEH	2.8411	0.476
Filipino	Mathematics	2.4135	0.683
Filipino	Science	0.8060	0.999
Filipino	Social Studies	1.2279	0.989
Filipino	Values	1.4349	0.972
TLE	MAPEH	3.6393	0.166
TLE	Mathematics	3.2014	0.314
TLE	Science	0.4891	1.000
TLE	Social Studies	0.0000	1.000
TLE	Values	1.9319	0.873
MAPEH	Mathematics	-0.8652	0.999
MAPEH	Science	-3.4447	0.224
MAPEH	Social Studies	-3.6148	0.172
MAPEH	Values	-0.5187	1.000
Mathematics	Science	-2.5528	0.617
Mathematics	Social Studies	-2.6232	0.583
Mathematics	Values	0.0000	1.000
Science	Social Studies	-0.3449	1.000
Science	Values	1.0179	0.996
Social Studies	Values	0.6642	1.000

**Bar Graph**

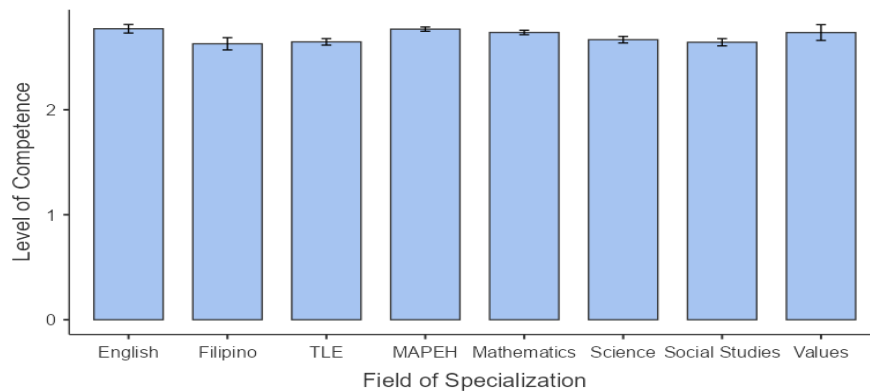


Table 11 shown that there was a statistically significant correlation between specialization area of the teachers and competence level in research construction ( $p = 0.021$ ). Yet, when making Wilcoxon pairwise comparisons, no significant differences were observed between certain subject areas, meaning no one particular specialization had a persistently higher level of competence. This implies that specialization may determine overall trends but not

specifically research capability. Consequently, research training must be made distinctive to cater to the varying needs of each discipline. This research is in line with the work of Hobbs and Porsch (2021), which captures that learning within one’s specialty develops greater subject understanding and enhanced teaching effectiveness, as opposed to teaching outside one’s field, which poses challenges that can affect both teacher performance and expertise.

**Table 12 Research Training Attended Vs Level of Competence**

$\chi^2$ Test	Value	Df	P	
$\chi^2$	3.43	3	0.330	

		W	P
1-3	4-5	1.47	0.727
1-3	6-8	-1.53	0.702
1-3	9-more	-1.26	0.809
4-5	6-8	-2.11	0.442
4-5	9-more	-2.24	0.388
6-8	9-more	0.00	1.000

**Bar Graph**

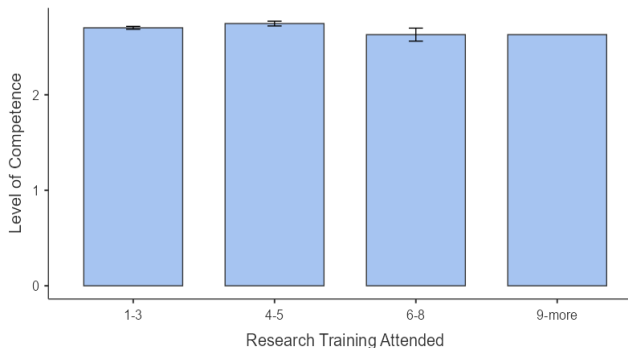


Table 12 revealed no significant relationship between the number of research training workshops attended and respondents’ competence level in constructing research, with a p-value of 0.330. Wilcoxon pairwise comparisons also did not reveal significant differences among training frequency groups. This suggested that the quality of training alone was not responsible for increased competence. Rather, the success of training seemed to hinge on its quality, topicality, and applicability. This research is pertinent to the conclusion Abella, J. Y., Cadorna, E., Taban, J., & Ramiriez, L. (2024), who stressed that high-quality, needs-based training programs are crucial in building a robust research culture and educational outcomes.

**Conclusion**

In conclusion, teachers at Kananga National High School demonstrate a moderate level of competence in research. They possess a solid foundation in fundamental areas such as data analysis, research methodology, and problem conceptualization. However, their skills are notably less developed in more advanced and applied aspects of research, particularly in implementing research findings, writing, presenting, and publishing research papers. These areas are critical for effectively translating research into classroom practice and enhancing educational outcomes.

While a large proportion of the participants are in their high-impact years professionally (ages 30-39), have post-graduate qualifications and have had at least six years teaching experience, they do very little research themselves. This can be seen through small number of research trainings they have done and how few research studies are being completed.

The study showed that there were no significant associations between most of the demographic variables and how competent teachers were regarding research. Field of specialization was the only variable that was significantly associated, hinting that some areas are more conducive or suitable to research engagement than others.

Teachers navigate multiple institutional constraints on their engagement in research process. Constraints include limited time and lack of funding, not enough research facilities and little in terms of professional development opportunities. These barriers are signs that the support systems, as well as carefully targeted interventions, are necessary in order to develop teacher research capacity and enable teachers to meaningfully participate in research that will enhance their practice.

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