



Research Culture and Competency of Public Elementary School Teachers in Davao Del Norte Division

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ABSTRACT

This study uncovered the relationship of research culture and competency of teachers since this had never been explored specifically in the local setting. It determined the extent of research culture and the competency of public secondary teachers in Davao Del Norte Division. Also, it investigated the association of the involved variables. There were 150 elementary teachers in the public schools who were selected as the respondents. It employed the descriptive-correlational survey method. Meanwhile, the data collated were analyzed through the use of Mean and Product-Moment correlation. Results revealed that there was an extensive research culture and an extensive competency. Furthermore, there was a significant relationship between the two variables. Based on the findings, it was further suggested that higher officials in the Department of Education and school heads may identify means and concrete programs, projects, initiatives, and interventions that would foster a positive and proactive research culture in order to help teachers strengthen their research competency. More so, future researchers may further explore the involved variables considering other factors and research methods.

Keywords: Research culture, competency, descriptive correlation, Davao del Norte Division, Philippines

1. Introduction

Research competence is the basis for the development of intellectual, communicative, design skills, develops critical thinking, creative abilities of the teacher. Teachers are researchers. They collect enormous amounts of data each day, and they rapidly evaluate and make decisions based on this data. Some of this work is numerical, but much is qualitative. Teachers may be second only to doctors in doing this. What teachers are not good at is doing anything formal with this data. Teachers have been challenged to become professionally productive through research outputs. Research competency is the combination of training, skills, experience, and knowledge that a person has and his ability to apply them to perform a task. However, teachers tend to make excuses when asked to make research.

In the West Kazakhstan, Aktobe, Atyrau, and Kustanai regions, it was showed that the widespread use of active teaching forms and methods often does not reflect their systemic nature. The implementation of the "action research" methodology does not find proper development due to the low level of development of teachers' meta-subject research competencies. In Indonesia, there is poor development of research competency among teachers. In fact, training activities to improve the teachers' research competence in Indonesia still have not fulfilled the expected standards. The training has not been developed based on the expected long-term needs and objectives, namely teachers who are competent in conducting research. Training materials and materials have not been compiled based on adequate needs analysis [1].

In the Philippines, teachers' research competency needs to be further developed. As revealed, public secondary and elementary school teachers were moderately capable of writing a research proposal and publishable paper, while they are not skillful enough in conducting classroom-based research [2]. More so, public teachers perceived a moderate level of difficulty in some aspect of action research, such as statistics, data organization, literature searching, and writing reports [3]. It was found public elementary teachers were in doubt with their capability to write research [4]. In Taytay, revealed that teachers were lack of training and seminars on how to do research, have insufficient budget in the school to undertake research, difficulty in analyzing qualitative data, have heavy teaching load, and the process of proposing research is very tedious and rigorous. Also, they are busy with their teaching practice and personal life to do research [5].

In the Division of Davao del Norte, it was observed that teachers were not that committed in developing their research competency for some reasons. The obstacles in enhancing teachers' research competency stemmed from various factors. Insufficient access to research training programs and workshops impeded the development of research skills among teachers. Also, teachers often had busy schedules, leaving them with little time to engage in research activities and develop their research competency. Other than that, there was an inadequate access to research materials, funding, or technology which hindered teachers from conducting research effectively. In addition, a resistance to adopting research practices due to traditional teaching methods or skepticism about the benefits of research was also evident to some of the teachers.

By focusing on tailored training, resource provision, mentorship, workload reduction, and fostering a supportive research culture, these challenges could be mitigated to enhance teachers' research competency. Within this context, the researcher was motivated to delve into the levels of research culture and research competency among public elementary teachers in Davao del Norte Division. The study uncovered the correlations between research culture and teachers' research competency.

Additionally, this endeavor offered valuable insights to policymakers, enabling them to formulate policies, programs, interventions, projects, and activities that foster a research-friendly environment among school leaders. This, in turn, would create opportunities for teachers to demonstrate their research competency. This study was primarily grounded in the Social Cognitive Career Theory (SCCT) [6]. The theory encompassed models concerning academic and career interest, choice, and performance. Furthermore, it operated on the fundamental premise that interests, abilities, values, and environmental factors are interconnected and significantly influence an individual's career development [7].

The primary aim of SCCT is to explore the interconnections between individuals and their career-related contexts. Consequently, it seeks to consider the entire environment or culture within which individuals make decisions about their careers. Essentially, SCCT suggests that interest becomes a potent determinant of choices individuals make when they are in a supportive and encouraging environment rather than a limiting or restrictive one. In unfavorable conditions, individuals may compromise their interests for more practical and suitable alternatives. Conversely, individuals are more likely to deeply engage in their chosen interests when they perceive themselves as competent in the activity and anticipate meaningful outcomes [8].

In light of this perspective, it is asserted that successful schools are those that offer substantial support for faculty research endeavors, cultivating a culture of research and enhancing faculty research output. The key factors contributing to the establishment of a research-oriented culture, drawn from an analysis of secondary literature and institutional practices. Schools that prioritize research offer support through effective leadership with clear objectives, comprehensive faculty training and support programs, and the establishment of research center [9].

It was proposed a range of criteria for evaluating the research culture within institutions. These criteria encompass institutional research policies and priorities, the culture and operations of various departments, working conditions, financial allocation for research, available infrastructure, collaborations with and accessibility to research experts in external institutions, policies and guidelines regarding research benefits and incentives, and the presence of research committees and publication outlets [10].

Supporting this notion, it was asserted that the research culture serves as a platform for problem-solving, necessitating critical thinking among educational managers and teachers [11]. Additionally, it was highlighted that research experiences within Education Programs incorporated fewer research activities compared to other disciplines [12]. Research findings on action research and its influence on teaching professionalism suggest significant enhancements. Action research has been shown to elevate teaching professionalism by increasing teachers' self-esteem and autonomy in the classroom [13], enhancing their teaching practices [14] and augmenting job satisfaction derived from pedagogical practices [15]. The implementation of collaborative action research within in-service teacher training programs contributes to knowledge construction, facilitates the acquisition of practical teaching techniques, and instills confidence in teaching English among educators [16].

2. Methodology

Research Design

In this study, a quantitative research approach was employed, specifically utilizing a descriptive correlational technique. Quantitative research methods involve the collection of numerical data and its subsequent mathematical analysis, often incorporating statistical tools. Descriptive research is characterized by a hands-off approach from the researcher, where the variables under study are observed without any manipulation. Its primary objective is to provide an in-depth understanding of the inherent characteristics of these variables [17]. On the contrary, a correlational investigation seeks to establish whether there exists an association between two variables. This involves determining whether an increase or decrease in one variable is linked to a corresponding rise or decline in the other [18].

This study was categorized as quantitative since it relied on numerical data for data analysis and interpretation. It was descriptive since its goal was to evaluate the research culture and competency of teachers. This academic endeavor was also correlational because it evaluated the relationship between research culture and competency of teachers in public elementary schools of Davao del Norte Division.

Research Respondents

There were 150 public elementary teachers who were invited to answer and be part of this study. It was claimed that for simple regression analysis, it needed at least 50 samples and generally 100 samples for most research situations [19]. Hence, the 150 respondents were enough to address the purpose of this study.

In the inclusion and exclusion criteria, elementary teachers with 5 years teaching experience were chosen in this endeavor since their 5 years stay in the public school helped them to assess the research culture in their school and how it affected their research competency. Respondents must also be actively involved in research. Respondents who felt awkward and uncomfortable in answering the survey questionnaire were free to withdraw from their participation. They were not forced to be part of the study. Their decision to withdraw was respected. Apparently, the respondents' welfare was given utmost importance in the conduct of the study.

Research Instruments

The research culture questionnaire consisted of 24 items [20]. The independent variable is the social competence of school heads. It has six indicators, namely: environment factors (1-10), institutional factors (1-10), and personal factors (1-4). The questionnaire was subjected to a pilot testing having a result of .74 suggesting that the items have relatively *high* internal consistency.

The competency questionnaire had a total of 30 items [21]. It had nine indicators, namely: framing of research questions and capacity of developing instrument (1-5), critical review of literature and comprehensive theoretical knowledge (1-10), data collection related competencies (1-5), and data analysis related competencies (1-10). The questionnaire was subjected to a pilot testing having a result of .73 suggesting that the items have relatively *high* internal consistency.

Table

Table 1

Summary on the Extent of Research Culture

No	Indicators	Mean	Descriptive Equivalent
1	Environmental Factors	3.48	Extensive
2	Institutional Factors	3.51	Extensive
3	Personal Factors	3.54	Extensive
Overall		3.51	Extensive

Table 1 provides the summary on the extent of research culture. It is exhibited that the overall mean of research culture is 3.51, which is in an extensive level. This means that research culture is oftentimes evident.

Data show that all three (3) indicators are in an extensive level. As arranged chronologically, personal factors has the highest mean score (3.54). This is followed by institutional factors (3.51) and environmental factors (3.48).

The results indicate that a robust research culture is frequently observed among the participants. The data, representing all three (3) indicators, consistently reflect an extensive level of research culture. Notably, when considering the mean scores in chronological order, personal factors emerge with the highest mean score suggesting a substantial influence on cultivating a research-oriented environment. These findings underscore the multi-faceted nature of research culture, influenced by personal attributes, institutional support, and the overall environmental conditions within the academic setting.

With the extensive research culture, this reaffirmed the widely held belief that research culture as shared values, assumptions, beliefs, rituals and other forms of behavior geared towards the acknowledgement of the value and significance of research practice and its outputs [22]. Research undertakings are considered vital and meaningful in the overall operations of the academic community. It was emphasized that activities like sitting as a panel member in an oral defense, supervising and mentoring researchers, writing research papers and presenting them in the national and international conferences are agents for enhancing research culture [23].

However, it was mentioned that a major indicator of weak research culture in universities is that they have low number of research articles, and research journals. But now-a-days, universities are putting a strong effort to improve research culture in universities by developing research culture in their teachers for getting high ranking in world universities [24]. The lack of research funding and facilities become the hindrance in the development of research culture. These problems are trying to be solved by the provision of research funds to public sector universities but results are not up to the mark. These problems refer to environmental, institutional and personal factors [25].

Table 2

Summary on the Extent of Research Competency

No	Indicators	Mean	Descriptive Equivalent
1	Framing of Research Questions and Capacity of Developing Instrument	3.62	Extensive
2	Critical Review of Literature and Comprehensive Theoretical Knowledge	3.56	Extensive
3	Data Collection Related Competencies	3.57	Extensive
4	Data Analysis Related Competencies	3.50	Extensive
Overall		3.56	Extensive

Table 2 provides the summary on the extent of competency. It is exhibited that the overall mean of competency is 3.56, which is in an extensive level. This means that the competency is oftentimes evident.

Data show that all four (4) indicators are in an extensive level. As arranged chronologically, framing of research questions and capacity of developing instrument has the highest mean score (3.62). This is followed by data collection related competencies (3.57), critical review of literature and comprehensive theoretical knowledge (3.56), and data analysis related competencies (3.50).

The data reveal a consistent and extensive level of competency across all four indicators, emphasizing the proficiency of the participants in various aspects of research-related skills. Framing of research questions and the capacity to develop instruments emerge as the areas with the highest mean score indicating participants' strong ability to formulate precise research inquiries and create effective research tools. Subsequently, data collection-related competencies underscore participants' adeptness in communication, utilization of diverse data collection methods, and proficient data gathering. Critical review of literature and comprehensive theoretical knowledge demonstrates participants' thorough understanding of existing research and theoretical frameworks. Finally, data analysis-related competencies indicate participants' competence in selecting appropriate statistical tools and interpreting gathered data. This comprehensive analysis highlights the overall competency of the participants, showcasing their proficiency in the key aspects of the research process.

The favorable findings of this study supported the findings that research competency is a significant attribute that should be developed for all professionals. As professionals with knowledge, skills, and positive expression of research will understand the systematic thinking, analysis, and synthesis. This will lead to an academic development of all professions and enable the discovery of new knowledge and innovation, to assist in problem resolution systematically, and the knowledge can be further developed continuously [26].

Countries around the world focus on an importance of the research for education development and attempt to make teachers as researcher, and adapt the role of research as a core activity to enhance teaching and learning or research teaching process, including the development of academic competency in school on the basis of ongoing research [27]. Teachers need to have research knowledge as they are deficient of research and development in academic education, which is one of the reasons for current decline in the teachers' prestige [28].

Table 3

Significance of the Relationship Between the Extent of

Research Culture and Competency

Research Culture Indicators	Dependent Variable	r-value	p- value	Decision on Ho
Environmental Factors	Competency	0.422	0.000	Rejected
Institutional Factors		0.428	0.000	Rejected
Personal Factors		0.432	0.000	Rejected
Overall		0.427*	0.000	Rejected

*Significant at 0.05 significance level.

Presented in Table 3 are the data on the significance of the relationship between research culture and competency. Reflected in the hypothesis, the relationship was tested at 0.05 level of significance. The overall r-value of .427 with a p-value of <0.05 signified the rejection of the null hypothesis. It means that there is a significant relationship between research culture and competency. This shows that research culture is correlated with the competency.

Doing a pairwise correlation among the measures of both variables, it can be gleaned that environmental factors, institutional factors, and personal factors revealed computed r-values of 0.422, 0.428, and 0.432 respectively with p-values which are less than 0.05 in the level of significance. This implies that as environmental factors, institutional factors, and personal factors increase, the research competency increases.

The overall statistical analysis, with an r-value of .427 and a p-value <0.05, provides strong evidence to reject the null hypothesis, indicating a significant relationship between research culture and competency. This implies that as the research culture within the academic setting improves, there is a corresponding increase in the competency of the participants. Further exploration through pairwise correlation reveals specific factors contributing to this relationship. Environmental factors, institutional factors, and personal factors exhibit computed r-values of 0.422, 0.428, and 0.432, respectively, all with p-values below 0.05. These findings suggest that an enhancement in environmental, institutional, and personal factors is associated with a concurrent increase in research competency. The results underscore the interconnected nature of research culture and competency, emphasizing the importance of fostering a conducive environment, supportive institutional structures, and individual motivation to enhance overall research capabilities.

The outcome aligned with the research findings revealing that a research-friendly environment not only fosters the development of established researchers but also encourages emerging professionals to engage in investigative pursuits. Within this atmosphere of scholarly curiosity, research competency thrives

as both a result of and a driving force for an enhanced research culture [29]. A robust research culture can enhance teachers' participation in research, highlighting that being immersed in such an environment can significantly refine their research abilities [30].

Additionally, fostering a research culture among educators enhances their sense of professionalism, indicating that research competency plays a crucial role in shaping professional identity [31]. Expanding on this, the combined insights of these scholars highlight that a strong research culture not only strengthens research competency but also establishes a mutually reinforcing dynamic where competency, in return, contributes to the development of the culture [32].

Conclusions

Based on the findings of this study, the following conclusions were offered:

The extent of research culture of the public elementary schools implies that it is oftentimes evident. In fact, all dimensions are oftentimes evident from the school heads, namely, environmental factors, institutional factors, and personal factors.

Meanwhile, the extent of competency of teachers is oftentimes evident. Apparently, all indicators are found to be oftentimes evident specifically on framing of research questions and capacity of developing instrument, critical review of literature and comprehensive theoretical knowledge, data collection related competencies, and data analysis related competencies.

Based on the findings, research culture and competency are related. This leads to the rejection of the null hypothesis.

Recommendations

The following suggestions were offered based on the conclusions of the study:

The higher officials in the Department of Education may prioritize and actively support the cultivation of an extensive research culture within the education system. This can be achieved by fostering an environment that encourages collaboration, provides resources for research activities, and promotes a continuous exchange of ideas among educators. Additionally, investing in professional development programs that enhance research competency among teachers should be a key initiative. Offering workshops, training sessions, and incentives for research engagement may contribute to the development of a skilled and motivated teaching workforce.

Moreover, school heads may play a pivotal role in fostering an extensive research culture and enhancing research competency among their teaching staff. School leaders may create an environment that values and encourages research activities, providing necessary resources, support, and recognition for teachers engaged in scholarly pursuits. Implementing regular professional development opportunities, such as workshops or seminars focused on research methodologies and skills, can contribute significantly to building the research competency of teachers. Furthermore, school heads may actively promote collaboration among teachers, facilitating the exchange of ideas and experiences.

Furthermore, teachers may actively embrace and contribute to the development of an extensive research culture within their educational institutions. Engaging in research activities, attending relevant workshops, and participating in collaborative endeavors with colleagues may enhance research competency. By actively participating in research endeavors, teachers not only contribute to the growth of the overall research culture but also elevate their own professional development, enabling them to provide richer and more effective learning experiences for their students.

Lastly, future researchers may explore relevant information about research culture and research competency of teachers. Also, other means of research approach may be utilized to further explore the involved variables in this study.

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