Cultivating Action Research Culture among Teachers

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ABSTRACT: This study determines the intricate relationship between action research culture and its effect on the professional development among teachers in Opol District, Division of Misamis Oriental. Five significant goals were addressed in this study by profiling respondents' characteristics, defining the research culture among teachers in terms of funding, infrastructure, interest, research capability, and research collaboration, evaluating the teachers' professional development based on curriculum, general pedagogical knowledge, field of knowledge, pedagogy, and teaching methodologies, examining the significant relationship between teachers' research culture and their professional development, evaluating the significant relationship between the research culture, professional development, and respondents' characteristics. This study used a survey questionnaire on all public elementary and secondary school teachers during the School Year 2023–2024. The participants were 200 teachers: 117 were elementary, and 83 were junior and senior high school teachers. Slovin's Formula was used to get the sample size. Data were analyzed using statistical tools such as Pearson r correlation, mean scores, frequency and percentage, and standard deviation. Significantly, relationships exist between research culture and professional development. It was manifested that the respondents' years of teaching and highest educational attainment showed a significant relationship between their level of research culture and professional development. Ultimately, despite the teachers being competent in cultivating research culture and also referred to as experts in professional development, it is recommended that Values Education as one of the areas of specialization be improved, funding for research resources be allocated, opportunities for ongoing professional development be offered, reskill and upskill teachers in line with current curriculum updates and a research culture be fostered utilizing mentorship and workshops.

KEYWORDS: Action research culture, professional development

I. INTRODUCTION

The research culture among teachers in the Opol District is one of the issues that reminds the researcher in every organization, especially regarding time constraints, demanding jobs, and pressure to meet performance targets, which sometimes limit the time available for learning and professional development. Thus, insufficient knowledge, such as the accessibility of academic papers and research materials, may hinder evidence-based initiatives. Teachers may do research initiatives if conferences and other activities are not financially supported. School officials and leaders must address these issues to encourage a robust research culture and increase academic standards.

At present, understanding the culture of research among teachers in the Opol District is critical for the proper design and execution of professional growth initiatives in this district. The engagement of teachers in the district, despite the existence of a legal and operational framework to carry out this objective, is still an area that school heads should give their focus on. Researchers carefully collected district data, and among 200 teachers, a sizable fraction were not actively pursuing graduate studies, with the remaining teachers at various levels of academic advancement. To be more precise, forty-eight (48) educators were not pursuing graduate school, forty-four had completed their coursework but had not yet started writing their theses, forty-three had master's degrees, and fifteen were actively seeking doctorates. Additionally, there was a noticeable lack of teacher participation in outside training programs and seminars, suggesting a need for more opportunities for professional development. Not all educators are motivated to conduct research or are interested in it. Teachers also frequently encounter challenges like inadequate funding and lack of skills and knowledge about conducting research. Furthermore, the school's teachers were found to have a relatively new research culture, with very few having finished official research projects. It was in this context that the researcher observed the teacher-professional development gap.

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Professional development is essential for increasing teacher effectiveness, job happiness, and student accomplishment. Professional development activities, however, must be aligned with the culture of research and the unique requirements of teachers in the Opol District to be effective. Recognizing the link between the culture of research and career growth is critical for establishing programs with long-term effects.

The desire to gain a greater understanding of how teachers interact with research, individually and collectively, motivates a study on the research culture of educators in the Opol District. This knowledge is essential for developing individualized professional growth programs that create an inquiry-based culture, evidence-based practices, and continual improvement among educators.

In DO No. 39 s 2016, The Basic Educational Governance Act of 2001 stressed the role of research in the administration and management of the primary education system. Through efforts like the Basic Education System Reform Agenda (BESRA) and the formation of the Research, Innovation, and Policy Evaluation Secretariat (RIPES), DepEd has enhanced research. Under the Rationalization Plan, the Department established the Policy Research and Development Division to promote and manage education research, undertake empirical studies, and encourage evidence-based decision-making at all levels.

According to Comon and Corpuz (2024) the connection between teachers' participation in the classroom and their research competency. It was discovered that there was a strong association between teachers' engagement and their research competency and a substantial relationship between involvement and moderating factors including position and training. However, the number of coordinatorships made it difficult for them to research. The study establishes the foundation for a focused Research Development Plan by highlighting the significance of emphasizing research competency and involvement in educational progress.

In summary, this study was necessary to bridge the gap between the research culture and professional growth among teachers and school leaders in the Opol District. This study aims to give significant insights into research culture as a foundation for professional development that may be used to guide the establishment of professional development efforts to foster a research culture and evidence-based practices among teachers. Finally, the findings are expected to improve teaching techniques, assist decision-making, and improve learning results in the Opol District.

II. METHODOLOGY

This study employed the descriptive research design. It is intended to help the researcher gather information on current affairs. The main aims and objectives of this research are to characterize events as they arise over the study period and examine the causes of certain events.

It used the correlational method of research. This design investigates correlations between variables without allowing the researcher to control or manipulate them. Instead, they are only observed and measured. This design allows the analyst to observe natural relationships between variables. This study examined the relationship between the research cultures and professional development among Elementary and Secondary teachers in the Opol East and West District, Division of Misamis Oriental, during the School Year 2023-2024.

Data were gathered quantitatively by distributing a survey questionnaire, which can give facts, evidence, or information expressed in numerical form. One benefit of using a questionnaire over a face-to-face conversation is that it makes getting in touch with many more people more accessible. It was more straightforward for the researcher to gather data since the respondents were the chosen teachers from public schools within the District of Opol East and West, Division of Misamis Oriental.

The research tool has a three-part survey questionnaire. The first part of the questionnaire asked about the respondents' characteristics, which included their areas of specialization, years of teaching, and highest educational attainment.

The second part is the level of teachers' action research culture, which was adapted from the study of Ballenas et al. (2023) entitled Research Culture and Organizational Learning on Professional Development of Secondary Teachers, of which it is categorized into five domains, namely: funding, infrastructure, interest, research capability, and research collaboration. The instrument is composed of fifty (50) items grouped into four (4) components and evaluated using a four-point Likert Scale as follows: 4- At All Times, 3- Most of the time, 2- Sometimes, and 1- Never.

Lastly, to measure teachers' professional development level in action research, a four-point Likert-type instrument was adapted from the study of Yigit and Bagceci (2018) entitled Teachers' Opinions Regarding the Usage of Action Research in Professional Development. The instrument captures five (5) levels of action research on the professional development of teachers based on curriculum, general pedagogical knowledge, field of knowledge, pedagogy, and teaching methodologies. The instrument comprises forty-eight (48) items grouped into four (4) components and evaluated using a four-point Likert Scale as follows: 4- Expert, 3- Experienced, 2- Developing, and 1- Beginning.

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III. RESULTS AND DISCUSSION

Problem 1: What are the respondents' characteristics in terms of areas of specialization, years of teaching, and highest educational attainment?

Table 1 shows teachers in the Opol District have a General Education specialty, especially those who have been in the classroom for five to nine years. Furthermore, roughly 50% of the participants got a Bachelor's Degree, suggesting this is the most common level of education. This implies that most educators have a wide range of expertise, which may make it easier for them to do research. Possessing multidisciplinary knowledge makes it possible for teachers to incorporate research from other domains into their instructional strategies. This significant number of the participants are novices in the field, exhibiting a strong desire to learn both within and beyond the educational setting. This excitement implies a readiness to leave their comfort zones in the quest to become proficient teachers. It is also noteworthy that, as new teachers, they might not have any formal goals for professional development or career growth just yet. Instead, they can put more emphasis on taking pleasure in their current positions, free from the burden of taking on new duties. According to Jin et al. (2018), professional growth is a difficult process, and experienced teachers' assistance is a crucial outside resource for inexperienced educators. The findings are analyzed in light of the Chinese educational system.

Table 1: Summary Distribution of Respondent's Characteristics

Respondent's Characteristics	Frequency	Percentage
Area of Specialization		
General Education	39	19.50
Values Education	5	2.50
Number of Years Teaching		
5-9 years	67	33.50
30 years and above	19	9.50
Highest Educational Attainment		
Bachelor's Degree	98	49
Master's Degree with PhD/EdD units	15	7.50

On the other hand, the low frequency of respondents in Values Education as their area of specialization might cause teachers' lack of confidence in their ability to teach values. This means that educators could believe that, in comparison to other educational specialties, Values Education offers insufficient chances for professional growth or career progression. Moreover, the challenging nature of teaching, which includes extended working hours, high levels of stress, and few prospects for promotion, may have caused some teachers to retire or move into other jobs when they reached 30 years in service, while others may have chosen to leave the field entirely.

Setiawan (2021) states that teachers need classroom action research to support their careers. Teachers' interests in classroom action and research include problem-solving, enhancing teachers performance, acquiring innovation, strengthening education quality, developing student achievement, learning media innovation, encouraging a research culture for teachers, and enhancing professional relationships between educators.

Problem 2: What is the level of research culture among teachers in terms of funding, infrastructure, interest, research capability, and research collaboration?

Table 2: Summary Distribution of Respondents' Level of Research Culture

Variables	Mean	SD	Interpretation
Funding	3.18	0.81	Competent

Infrastructure	3.23	0.79	Competent
Interest	3.19	0.80	Competent
Research Capability	3.24	0.76	Competent
Research Collaboration	3.23	0.75	Competent
Overall	**3.22**	**0.78**	**Competent**

Legend:

3.26-4.00	At all Times/Highly Competent	1.76-2.50	Sometimes/Less Competent
2.51-3.25	Most of the Time/Competent	1.00-1.75	Never/Not Competent

Table 2 shows the summary of the respondents' level of research culture among teachers with an overall mean of 3.22 (SD=0.78) interpreted as Competent. This means that respondents manifested a Competent level in terms of cultivating research culture among teachers. This further means that teachers are adequately proficient, engaged, and involved in research-related activities in the classroom. Using evidence-based practices, teachers can improve their practice and contribute to academic debate by engaging in research activities with the requisite skills, knowledge, and capacities. This implies that the designation of research culture underlines how crucial it is to create a welcoming atmosphere that honors and encourages teachers' involvement in research. This further implies that programs to improve research literacy, offer chances for cooperation and knowledge exchange, and acknowledge and honor contributions to the field of research. Educational stakeholders can enable teachers to make significant contributions to scholarship, creativity, and educational reform by fostering a culture that supports and fosters research initiatives. This will ultimately benefit students and the larger educational community.

According to Edwards (2018), the teachers' professional development was significantly and sustainably impacted by their involvement in the English Australia Action Research program. They could also extend their research engagement, improve their teaching, and gain recognition for their work, which raised their status or profile in the schools. Thus, conducting action research contributed to these teachers ongoing professional development and opened up new avenues for collaboration and opportunity. Even if these findings are positive, much more has to be studied about the influence of action research.

The variable research capability obtained the highest mean rating of 3.24 (SD=0.76), interpreted as Competent. This means that teachers have a Competent level of cultivating research culture in terms of research capability. This further means that teachers are equipped with the abilities, know-how, and skills needed to participate in many parts of the research procedure, including developing research questions, planning studies, gathering and evaluating data, and interpreting results. This implies that teachers are skilled and efficient in implementing research techniques and strategies in their professional work, which helps to foster a strong research culture in the classroom. This further implies that the proficient degree of research proficiency exhibited by educators suggests that they possess the necessary tools to significantly contribute to academic research, evidence-based practice, and ongoing educational enhancement. Teachers who are proficient in research can address urgent issues in education, produce new knowledge, and provide empirical evidence to support decision-making processes.

In the end, this helps students and the field of education in general by fostering the growth of a vibrant and inventive research culture that encourages cooperation, critical inquiry, and creative thinking among educators. As posited by Laguador and Soverano (2022), to realize the value of research for professional development and its application in communities, institutions, and students, the study proposes an improvement plan.

On the other hand, the variable, Funding, got the lowest mean rating of 3.18 (SD=0.81) interpreted as Competent. This means that the respondents manifested a competent level of cultivating research culture in terms of funding. This further means that although the rating is lower, it indicates that the respondents are allocating resources to promote research efforts efficiently. They seem to be carefully negotiating a variety of funding channels, such as grants from the government, investments from the business sector, and cooperative alliances, to guarantee ongoing financial support. For example, in the district, teachers' monthly dues and SPTA funding are available to researchers, and they are important resources to support their studies. Educational stakeholders show their commitment to advancing quality, creativity, and ongoing education reform by supporting research initiatives through financing methods, which eventually help students and the larger educational community.

Moreover, the funding variable has the highest standard deviation of 0.81. The striking funding standard deviation indicates a considerable degree of variation in opinions or experiences about how competent the funding sources are for research projects. This implies that opinions about the sufficiency, accessibility, or efficacy of funding resources may vary among

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respondents, indicating a need for greater uniformity or clarity in the dissemination of information and distribution of research funds among the population under study.

As posited by Shen (2022), in terms of external research funding, this study explores the evaluation standards for German language teachers. It discovers a mismatch between the demands of the classroom and the available resources, which has an impact on their survival and growth. The study makes recommendations for long-term career advancement. In addition, Ruan et al. (2024),found that the foreign language teachers at a Chinese university used agencies when submitting funding applications. The components of agency beliefs, practices, and emotions are revealed by the research, and their development paths are relational and situated.

Problem 3. What level of professional development do teachers have in the following areas: curriculum, general pedagogical knowledge, field of knowledge, pedagogy, and teaching methodologies?

Table 3: Summary Distribution of the Respondents' Level of Professional Development

Variables	Mean	SD	Interpretation
Curriculum	3.27	0.75	Highly Competent
General Pedagogical Knowledge	3.28	0.73	Highly Competent
Field of Knowledge	3.30	0.74	Highly Competent
Pedagogy	3.33	0.70	Highly Competent
Teaching Methodologies	3.34	0.71	Highly Competent
Overall	**3.30**	**0.72**	**Highly Competent**

Legend:

33.26-4.00 Expert/Highly Competent	1.76-2.50 Developing/Less Competent
2.51-3.25 Experienced/Competent	1.00-1.75 Beginner/Not Competent

Table 3 shows the summary of the level of professional development as rated by the teacher-respondents with an overall mean of 3.30 (SD=0.72) interpreted as Expert. This means that the respondents manifested a Highly Competent level of professional development. This further means that the educators have, on the whole, attained a significant degree of competency and development in their professional abilities, demonstrating a solid understanding of educational concepts, techniques, and practices pertinent to their Area of expertise. This implies that more than competence, the respondents have reached a higher level of professional development. It suggests that these educators have probably pursued further training, kept up with current field trends, and accumulated much expertise. Also, they have the abilities, know-how, and proficiency required to successfully negotiate the challenges of their line of work and adjust to changing educational environments. Overall, the statement presents a favorable evaluation of the teacher respondents' dedication to continual improvement and high standards in their career pursuits. It has been discovered that teacher action research promotes both professional growth and instructional practice enhancement.

The study of Rumiantsev et al. (2023), posit that teachers' actions and opinions about the importance of action research were investigated using a multiple-case study approach. Teachers' opinions of action research as a means of promoting the improvement of their professional development and teaching practice are among the findings from the cross-case study. It was discovered that teacher action research-related constructive partnerships and introspective analyses strengthened their teaching and learning.

Moreover, the indicator Teaching Methodologies obtained the highest overall mean rating of 3.34 (SD=0.71) described as Expert. This means that teachers are Highly Competent in terms of teaching methodologies. This means further that the teachers are proficient and effective in utilizing a variety of teaching styles, demonstrating that they have advanced skills and expertise in this field. This implies that the teachers' skill and competence in using various teaching techniques is reflected in their high ranking. This skill probably helps to create learning settings that are both effective and interesting for pupils. Further, teachers possess a thorough understanding of educational theories and practices, which enables them to modify their methods of instruction to suit the various requirements of students.

Overall, the statement emphasizes the educators' steadfast dedication to improving teaching strategies, raising educational standards, and encouraging ongoing development of instructional strategies. How children learn and grow can be significantly influenced by their teachers. Educators who are genuinely interested in their pupils, possess in-depth knowledge of their subject matter, and understand how kids learn and grow are the kind of classroom teachers who make a lasting impact on their lives (Amedu, 2018).

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Meanwhile, the indicator Curriculum got the lowest mean rating of 3.27 (SD=0.75), described as Expert. This means that teachers are on a Highly Competent level in terms of curriculum. Even if this area may have a lower ranking than others, the development and delivery of the program are nonetheless done with a very high degree of skill. Further, teachers and curriculum designers have a steadfast commitment and skill in creating engaging learning opportunities for children, even those with the lowest grades. It emphasizes their unwavering dedication to lifelong learning and the quest for academic greatness. To improve the curriculum's effectiveness, teachers were free to develop their teaching materials, which were then distributed via the Learning Resource Management and Development System. Furthermore, they received a platform to distribute these resources to other teachers during In-Service Training sessions.

In summary, the statement above emphasizes the significance of continuous professional development and curriculum design improvement to augment the caliber of education imparted to learners. According to Apsari (2018), teachers face challenges in three areas when implementing curriculum, namely the process of learning and instruction, lesson planning, and instructional materials.

Also, Apsari discovered that the respondents made some attempts to deal with those issues by making the most of the resources available, working with other teachers, participating in workshops , looking up lesson plan examples online, reading a variety of sources of information, copying and utilizing lesson plans from other schools, downloading E-books, asking friends to send E-books via email, and utilizing the previous book.

Problem 4. Is there a significant relationship between the research culture and professional development?

Table 4 shows the relationship between research culture and professional development. Overall, the relationship between research culture and professional development was strongly positive and Significant, as indicated by the correlation r-value and probability value less than 0.05 alpha level, which led to the rejection of the null hypothesis. This implies that as teachers conduct research, they naturally enhance these skills, which can directly contribute to their professional development. For example, teachers who regularly conduct research may become adept at analyzing student performance data to identify areas for improvement in their teaching methods. Teachers who actively participate in research tend to learn more, improve their methods of instruction, and keep up with the most recent developments in the field of education. Their ongoing development improves learning opportunities for students while also increasing the effectiveness of instruction to encourage a culture of intellectual research among educators, the Opol District sponsors the District Research Congress. Promoting investigation, exploration, and discovery is a goal for educators.

Table 4: Test of Relationship between Research Culture and Professional Development

Research Culture Indicators	Professional Development Indicators					
	Curriculum r-value p-value	General Pedagogical Knowledge r-value p-value	Field of Knowledge r-value p-value	Pedagogy r-value p-value	Teaching Methodologies r-value p-value	OVERALL r-value p-value
Funding	0.755 (SPR) 0.001* S	0.728 (SPR) 0.001* S	0.731 (SPR) 0.001* S	0.656 (MPR) 0.001* S	0.656 (MPR) 0.001* S	0.769 (SPR) 0.001* **S**
Infrastructure	0.816 (SPR) 0.001* S	0.759 (SPR) 0.001* S	0.785 (SPR) 0.001* S	0.696 (MPR) 0.001* S	0.704 (SPR) 0.001* S	0.815 (SPR) 0.001* **S**
Interest	0.772 (SPR) 0.001* S	0.704 (SPR) 0.001* S	0.748 (SPR) 0.001* S	0.686 (MPR) 0.001* S	0.702 (SPR) 0.001* S	0.782 (SPR) 0.001* **S**
Research	0.787	0.757	0.786	0.713	0.709	0.813

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Capability	(SPR)	(SPR)	(SPR)	(SPR)	(SPR)	(SPR)
	0.001*	0.001*	0.001*	0.001*	0.001*	0.001*
	S	S	S	S	S	**S**
Research	0.797	0.732	0.765	0.731	0.723	0.811
Collaboration	(SPR)	(SPR)	(SPR)	(SPR)	(SPR)	(SPR)
	0.001*	0.001*	0.001*	0.001*	0.001*	0.001*
	S	S	S	S	S	**S**

Legend: *significant at $p<0.05$ alpha level   S – significant   NS – not significant

Also, it encourages group discussion and insights, and the Opol District also sponsors an action research colloquium, which fosters intellectual curiosity and creativity in the classroom. These initiatives seek to equip educators with the necessary tools and resources. Coordinating training and teaching emphasizes how crucial an educator's research culture is. The needs of elementary school Teachers have grown in today's quickly changing world, with a focus on the professional attributes that are crucial to fostering this culture (Buribayev et al., 2023).

Moreover, the variable Infrastructure received the highest overall R-value rating of r-value (0.815), suggesting a Significant relationship between the research infrastructure of teacher respondents and their professional development. This means that the higher the level of infrastructure, the higher the engagement of teachers in conducting research; if teachers are actively engaged in research, they tend to develop professionally. Teachers are likely to undergo more professional growth if they have access to a robust research infrastructure, which includes sufficient resources, facilities, and support networks for carrying out research. Teachers' professional development is facilitated by research infrastructure, which encompasses technology and resources. Learning and staying current is easier when you have access to books, electronic databases, and research tools. Research funding aids educators in refining their pedagogical strategies. Schools can offer funding to attend conferences or workshops to help teachers learn new skills and get inspiration from other educators. Better education is the result of this support for both educators and students. Research infrastructure is, therefore, beneficial to both educators and learners.

According to Luo et al. (2022), rural teachers are less advantaged than urban teachers regarding inquiry-based learning. It names school infrastructure research culture and other aspects of school organization as mediating variables. Findings indicate that teacher participation in inquiry-based learning and the perceived research culture of the school are positively correlated, closing the gap between rural and urban areas.

Furthermore, the variable Funding received the lowest r-value rating of r-value (0.769), suggesting a Significant relationship between the research funding of teacher respondents and their professional development. This means that when funding is secured for successful research projects, recognition and awards can further improve a person's credibility and career opportunities. This means that as teachers build a portfolio of productive research projects, they position themselves for future success and influence in academia and become more eligible for tenure and promotion. Additionally, obtaining outside funding, such as solicitation from neighboring companies or corporations, enhances the school's standing and reputation, drawing elite faculty and students to their campus and promoting a thriving intellectual community. As posited by Davies et al. (2022), research funding competitions encourage co-authorship in New Zealand. The study revealed that the likelihood of collaboration is 13.8 percent higher for pairs who have collaborated on writing or proposals within the past ten years, yet not much higher for funded pairs.

However, Jeyaraj et al. (2021) conclude that due to the lack of facilities and a supportive atmosphere necessary for becoming research active, participants struggled to finish their Ph.D. programs or conduct research, leading to an inappropriate deepening of their academic activity. The study demonstrated that institutions had to offer sufficient support for a change to be successful, and teachers had to be genuinely motivated to conduct research. It is unclear how—or even if—such a shift can occur in the current environment of intense institutional competitiveness and irreconcilable teaching allotments without negatively impacting staff welfare.

Problem 5. Is there a significant relationship between the research culture and professional development when grouped according to respondents' characteristics?

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Table 5: Test of Relationship between Research Culture and Respondents' Characteristics

Profile of Respondents	Research Culture Indicators					
	Funding r-value p-value	Infrastructure r-value p-value	Interest r-value p-value	Research Capability r-value p-value	Research Collaboration r-value p-value	OVERALL r-value p-value
Areas of Specialization	0.099 (NLR)	0.130 (WPR)	0.153 (WPR)	0.124 (WPR)	0.104 (WPR)	0.131 (WPR)
	0.164 NS	0.067 NS	0.030 S	0.079 NS	0.143 NS	0.063 NS
Years of Teaching	0.459 (WPR)	0.336 (WPR)	0.366 (WPR)	0.368 (WPR)	0.403 (WPR)	0.417 (WPR)
	0.001* S	0.001* S	0.001* S	0.001* S	0.001* S	0.001* **S**
Highest Educational Attainment	0.385 (WPR)	0.376 (WPR)	0.355 (WPR)	0.372 (WPR)	0.387 (WPR)	0.404 (WPR)
	0.001* S	0.001* S	0.001* S	0.001* S	0.001* S	0.001* **S**

Legend: *significant at p<0.05 alpha level   S – significant   NS – not significant

Table 5 shows the relationship between research culture and respondents' profiles. Overall, the respondents' years of teaching and highest educational attainment showed a significant relationship between their level of research culture, as indicated by the correlation r-value and probability value of less than 0.05 Alpha level, which led to the rejection of the null hypothesis. This implies that respondents' highest educational attainment and level of research culture are positively correlated with the number of years they have taught. This implies further that as educators get more years of experience in teaching, they typically look for ways to advance their careers. These commonly involve returning to school to obtain further degrees or specialized certifications.

On the other hand, teachers with more education may have a higher chance of sticking with the job for a more extended period and gaining more experience as a teacher. Furthermore, teachers' research abilities are usually improved when they possess advanced educational credentials and a wealth of teaching experience. This is due to their capacity for conducting thorough and perceptive research on their subject, which is facilitated by their theoretical knowledge obtained through academic study and their profound awareness of instructional techniques gained from practical experience. This means that those with higher educational attainment are probably more equipped to research and have information gained from rigorous academic training, making them more inclined to take an active role in research-related activities. As Olvido (2021) posited, production maturity leads to creativity, which is the ability to introduce technology and influence regulations that support innovation and development.

According to Li et al. (2019), the level of updated, reflecting, and collaborative activity involvement among young teachers was associated with improved self-efficacy; on the other hand, only experienced teachers gained from reflective and collaborative activity participation.

Meanwhile, the indicator Areas of Specialization received the lowest overall r-value rating (0.131), suggesting a not significant relationship between the Areas of Specialization of teacher respondents and their level of research culture. This means that teachers' Areas of Specialization could not be a significant determinant of their capacity for conducting research. First of all, research techniques and abilities frequently apply to various courses and academic disciplines. Although specialized knowledge in a particular field can offer significant background information and understanding for research conducted in that field, the basic ideas of research design, data gathering, analysis, and interpretation are universal across disciplines. According to Bullo et al. (2021), teachers' biggest obstacles when researching and producing research are time constraints and difficulty. The results highlight the challenges teachers encounter while conducting research in their areas of expertise, illuminating the real-world issues that impede their research projects.

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Table 6: Test of Relationship between Professional Development and Respondents' Characteristics

Profile of Respondents	Professional Development Indicators					
	Curriculum *r-value p-value*	General Pedagogical Knowledge *r-value p-value*	Field of Knowledge *r-value p-value*	Pedagogy *r-value p-value*	Teaching Methodologies *r-value p-value*	OVERALL *r-value p-value*
Areas of Specialization	0.119 (WPR)	0.103 (WPR)	0.112 (WPR)	0.095 (NLR)	0.093 (NLR) 0.188	0.113 (WPR)
	0.093 NS	0.147 NS	0.113 NS	0.181 NS	NS	0.110 NS
Years of Teaching	0.460 (WPR)	0.466 (WPR)	0.434 (WPR)	0.369 (WPR)	0.421 (WPR)	0.466 (WPR)
	0.001* S	0.001* S	0.001* S	0.001* S	0.001* S	0.001* **S**
Highest Educational Attainment	0.389 (WPR)	0.372 (WPR)	0.405 (WPR)	0.336 (WPR)	0.356 (WPR)	0.402 (WPR)
	0.001* S	0.001* S	0.001* S	0.001* S	0.001* S	0.001* **S**

Legend: *significant at p<0.05 alpha level   S – significant   NS – not significant

Table 6 shows the relationship between professional development and respondents' profiles. Overall, the respondents' years of teaching and highest educational attainment showed a **Significant** relationship between their level of professional development, as indicated by the correlation r-value and probability value of less than 0.05 alpha level, which led to the rejection of the null hypothesis. This implies that the respondents' years of teaching and highest educational attainment were related to their professional development activities. This implies further that as the teacher stays in the field, she is gaining experience and improving her chances of getting promoted, particularly if she pursues professional growth.

Moreover, a higher level of education improves teachers' chances of being promoted, and as teachers become more knowledgeable, students stand to gain a great deal from their experience. This means that as teachers gain experience, they tend to understand their craft better, which motivates them to pursue additional schooling to hone their craft or experiment with novel teaching strategies. This means further that a continuous improvement mindset is fostered by higher education, which necessitates continual learning and a dedication to professional development. To improve their teaching practices, instructors are also encouraged by advanced degrees to stay current on the most recent findings and developments in education. Ado (2018) posited that in an urban educational institution staffed primarily by early career teachers, teacher-led research initiatives as a professional development framework support the growth of an encouraging professional society, feelings of context-specific assistance, and feelings of empowerment and overwhelm.

Meanwhile, the indicator Areas of Specialization received the lowest overall r-value rating (0.113), suggesting a not significant relationship between the areas of specialization of teacher respondents and their level of professional development. This means that professional development programs are not explicitly designed for teachers in specific fields of expertise or that teachers in all fields gain from the same professional development opportunities. This further means that elements other than specialization—like previous experience as a teacher or pedagogical training can significantly impact educators' professional development. This implies that valuing and acknowledging the variety of backgrounds and specializations among teachers is crucial. This implies further that professional development initiatives ought to cover a broader range of abilities and capabilities pertinent to efficient teaching practice rather than just concentrating on the specialized domains of teachers.

As posited by Bastian and Fortner (2020), the frequency and effects of subject-area specialization in primary schools are evaluated in this study using information collected from North Carolina primary schools. It was discovered that higher elementary grades are a common place for specialization, with more successful instructors being given this assignment.

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The majority of the teacher-respondents were General Education specialists. Data also revealed that the respondents with Bachelor's Degrees had the highest frequency. This means that most of the teachers who conducted the survey were novice teachers with five to nine years of teaching. These teachers are still enjoying the benefits provided by the Department and are satisfied with their current positions, but they have not yet felt compelled to pursue graduate education. Meanwhile, veteran teachers with thirty years of teaching experience had the lowest frequency. These seasoned teachers are getting close to retirement after being promoted to higher positions frequently. This probably clarifies why so few participants had units from their Master's program equivalent to a PhD or EdD.

Despite not having advanced degrees, the respondents showed competence in cultivating a research culture. As a means of advancing their careers, these novice teachers were driven to demonstrate their abilities and seize fresh chances, such as research. Workshops, mentorship, and group projects were among the organized resources offered by the institutional setting. Due to their ability to mentor and set expectations for new teachers, experienced educators also fostered a culture of research.

Interestingly, these teachers are also referred to as experts in professional development, suggesting that although they are relatively new to the classroom, they take a proactive approach to developing their knowledge and abilities, which may help them become more skilled at cultivating research. The confluence of new teachers' high levels of professional development with their research competence suggests a promising trend for future teachers who value lifelong learning and incorporating research into their teaching.

Notably, a strongly positive and significant relationship between research culture and professional development further supports this correlation, indicating that proactive participation in professional development improves the ability of educators to integrate research into their lesson plans effectively. This relationship between research aptitude and professional development emphasizes how younger teachers can lead the way in implementing creative and research-based teaching strategies in the classroom.

Furthermore, there is a strong relationship between years of experience and their highest educational attainment in terms of professional development and research culture. This implies that teachers' professional development tends to improve as they accumulate more experience, seek advanced degrees, and participate in more extensive research projects. Since most Opol District teachers are generalists, they are in a good position to conduct holistic research projects, especially since recent graduates are eager to advance in their careers. Professionals typically seek advanced degrees as they gain experience to expand their areas of expertise, stay up to date on changes in the field, and contribute to the creation and sharing of information. As a result, their vast experience and advanced education work in concert to enhance their ability to lead, innovate, and mentor others in both their professional and educational endeavors.

Finally, this study emphasizes how important it is for Opol District teachers to have a strong research culture and ongoing professional development. It demonstrates that by actively participating in professional development and research activities, educators of all experience levels make a substantial contribution to the advancement of education. The research abilities and efficacy of teachers can be improved by educational institutions by offering structured opportunities like workshops, mentorship, and cooperative projects. Acknowledging and capitalizing on the distinct abilities of inexperienced and seasoned educators cultivates a cooperative atmosphere that encourages ongoing enhancement and superior performance. In the end, the positive relationship between research culture and professional development implies that thoughtful expenditures in teacher preparation result in higher student achievement and a more creative educational environment.

IV. CONCLUSIONS

Based on the findings of the study, the following were the conclusions.

Teachers in the Opol District are competent in terms of cultivating research culture and are experts on the level of their professional development. It is also concluded that professional development and research culture have a significant and positive relationship. It follows that doing research inevitably improves teachers' professional abilities. For example, teachers who engage in research regularly develop expertise in examining data on student performance, enabling them to pinpoint and address areas where their instructional strategies need to be improved. As a result, encouraging a robust research culture in educational settings can directly support teachers continued professional development and efficacy.

Hence, the study concludes that a teacher's level of professional development and research culture positively correlate with the years they have spent teaching and their highest educational achievement. This shows that higher education and experienced teachers typically have a more incredible research culture, which benefits their professional development. Therefore, cultivating a robust research culture and supporting teachers' professional development requires consideration of both educational attainment and teaching experience.

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V. RECOMMENDATIONS

Based on the findings and conclusions generated from this study, the researcher has formulated the following recommendations:

1. Despite years of service, teachers should still attend In-Service Training or workshops that would enhance their skills in that particular subject, specifically in Values Education, considering that it is the lowest frequency among the areas of specialization, and continue to pursue professional units. Their ability to incorporate values-based lessons into their methods of instruction is enhanced by these training opportunities, which offer a deeper understanding of concepts and methodologies.

2. Funding is among the lowest means toward respondents' research culture. With this, purchasing educational resources, especially research materials, should be the main priority when allocating funds from the (MOOE) to Support school research activity. Using other funds to support research resources aligns with the larger educational objectives of fostering a community of inquiry and ongoing improvement. It can also generate different facets of additional funding sources, like utilizing school-generated, school-canteen share, stakeholders' partnerships, and Parent-Teacher Association funds.

3. Since the curriculum is among the lowest mean in respondents' level of professional development, recommendations on various strategies shall be used to reskill and upskill teachers' professional development toward current curriculum updates. Top-level officials shall enhance the curriculum to cater to 21st-century teachers, considering that the curriculum demands updates and is constantly changing.

4. The teachers' years of teaching and the highest educational attainment are significant when tackling this problem. It is strongly recommended that school officials emphasize the great value of both years of teaching and the best possible education. By highlighting and supporting these elements, we both acknowledge higher education's transformative power in reshaping individuals and societies and educators' commitment and experience to their work.

5. The Department of Education is well-positioned to present a nuanced perspective that emphasizes the importance of both educational accomplishments and teaching experience in fostering a dynamic research culture; thus, raising the value of years in teaching and advanced degrees signifies not only that we acknowledge and value the invaluable experience and commitment of our teachers, but also consider that these factors play a pivotal role in promoting an innovative and inquisitive culture in the educational environment.

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