Building a Research-Oriented Culture in Public Schools in the Philippines: A Systematic Review of Enablers and Barriers of Capability and Readiness

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ABSTRACT

This systematic review examines the enablers and barriers affecting the development of a research-oriented culture in Philippine public schools, focusing on teachers' research capability and readiness. It integrates both local and international literature from 2015 to 2025, critically appraising sources using established quality assessment frameworks. Individual enablers include teacher motivation, foundational research knowledge, and mentorship, while institutional supports include leadership commitment and dedicated research infrastructure. Barriers such as overwhelming workloads, insufficient training, and lack of policy implementation fidelity persist. The study expands upon the proposed Capability–Support–Burden (CSB) Equilibrium Theory and introduces elements from Change Management Theory and Professional Identity Theory. The findings inform targeted strategies for building sustainable research cultures in basic education.

Keywords: Research capability, public education, research culture, systematic review, educational reform, Philippines

INTRODUCTION

A research-oriented culture within public schools is increasingly acknowledged as essential for promoting evidence-based teaching practices, fostering professional growth, and enhancing educational outcomes. Globally, educational systems such as those in Finland, Singapore, and the United Kingdom have demonstrated the value of embedding research within school practice through national frameworks, teacher-led inquiry models, and university-school collaborations. In these systems, research engagement supports instructional innovation, reflective practice, and data-informed decision-making.

In the Philippines, the push to develop a research-engaged public-school culture has gained momentum over the last decade, particularly with the rollout of the Department of Education's (DepEd) Basic Education Research Agenda and Research Management Guidelines (DepEd, 2017). Despite these efforts, many educators remain disconnected from research, citing barriers such as limited training, lack of time, and inadequate institutional support (Tingabngab & Binayao, 2023).

Research engagement involves both the consumption (reading and reflecting on academic literature) and production (conducting and disseminating research) of scholarly work (Xerri, 2021). This dual process is known to foster innovation and critical thinking among educators (Borg, 2010; Leat et al., 2015). In practice, however, systemic constraints such as heavy teaching workloads, poor access to research infrastructure, and weak mentorship structures limit teachers' ability to meaningfully engage in research (Newman & Leggett, 2018; Berondo, 2023).

The literature suggests that cultivating a research culture requires not only individual motivation and competence but also systemic and institutional enablers such as leadership commitment, professional learning communities, and equitable access to research resources (Campbell & Levin, 2016; Zhang & Chapman, 2021). Gaps persist in the implementation of these strategies across Philippine public schools, particularly in rural and underserved contexts.

To address these challenges, this study employs a systematic review approach to synthesize literature on the enablers and barriers influencing research engagement among public school teachers. In doing so, it aims to deepen understanding of the interdependent roles of individual agency, institutional support, and professional burden. The proposed Capability–Support–Burden (CSB) Equilibrium Theory is revisited and extended with insights from Kotter's Change Management Model and Professional Identity Theory to offer a more holistic framework for building research cultures in education.

The study's objectives are:

1. To identify key enablers and barriers to teacher research capability and readiness in public schools.
2. To assess how institutional and policy-level factors support or constrain research engagement.
3. To refine a conceptual model that can inform targeted interventions for establishing a sustainable research-oriented culture in Philippine basic education.

RELATED LITERATURE

The promotion of a research-oriented culture in public schools has been a subject of increasing scholarly interest, especially in the contexts of teacher professional development and systemic education reform. Globally, the development of such cultures is often supported by institutional partnerships, structured mentoring, digital innovation, and strong leadership. These mechanisms enable teachers to engage not only in reflective inquiry but also in the production and dissemination of knowledge within and beyond their classrooms.

In countries like Singapore and the United Kingdom, embedding teacher-led research within national education agendas has yielded promising results. Singapore's Ministry of Education has institutionalized teacher inquiry as part of its Professional Learning Communities, while the U.K. has implemented the Research Schools Network to promote evidence-informed practice (Bennett et al., 2020). These initiatives are characterized by government investment, collaboration with universities, and structured support systems that normalize research participation among educators.

Zhang and Chapman (2021) argue that access to digital research platforms significantly improves participation among educators in geographically isolated or under-resourced settings. Digital tools bridge equity gaps and provide cost-effective access to peer-reviewed materials and collaborative networks. Similarly, Mincu (2018) notes that system-level interventions, such as reduced bureaucratic demands and incentives for research output, are essential for sustaining a research culture in public school systems.

From an organizational learning perspective, Hargreaves and Fullan (2015) emphasize that sustainable research cultures thrive in environments where leadership actively models inquiry, provides time for research activities, and cultivates psychological safety. These conditions encourage collaboration and reduce the stigma associated with failure or knowledge gaps.

In the Philippine context, the Department of Education has taken steps to encourage school-based research through policies such as DepEd Order No. 16, s. 2017. This order outlines a framework for research funding, dissemination, and utilization. However, implementation has been inconsistent. Delos Santos and Fabella (2018) found that while awareness of school-based research policies has increased, gaps remain in terms of institutional support, training accessibility, and incentives. Cruz and Del Rosario (2023) further highlight the policy-practice disconnect, with school heads reporting limited autonomy or resources to implement research initiatives effectively.

Other local studies reflect teacher-level challenges, such as fear of failure, limited methodological knowledge, and writing anxiety (Rivera & Sarmiento, 2019; Berondo, 2023). However, there are positive outliers. Bayot and Malabanan (2020) report that teachers enrolled in graduate programs are more likely to initiate research, suggesting that exposure to scholarly environments enhances confidence and capability.

Tolentino and Abella (2022), through a case study in Region IV-A, identified enablers such as division-level research conferences and structured mentorship programs. However, their study also pointed to disparities between urban and rural areas, where access to digital tools and experienced mentors remains limited.

Taken together, international and local literature converge on several key themes:

1. **Leadership and Institutional Support** are central to enabling research engagement.
2. **Professional Learning Communities and Mentoring** enhance individual readiness and confidence.
3. **Digital Access and Infrastructure** reduce geographical and economic disparities.
4. **Policy-Practice Gaps** weaken otherwise well-intentioned reforms.
5. **Professional Identity and Motivation** influence teachers' sustained engagement with research.

Despite these insights, notable gaps remain in existing literature. Much of the global research emphasizes higher education or national-level policy, with relatively few studies focusing on basic education. Locally, studies often use isolated case analyses or descriptive surveys without broader synthesis or theory development. This study addresses these gaps by using a systematic approach to synthesize multi-level factors and propose an integrative framework for building sustainable research cultures in public basic education.

METHODOLOGY

This study will adopt a systematic review methodology, rigorously following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. This well-established framework facilitates a comprehensive, transparent, and replicable synthesis of the existing scholarly literature related to the chosen topic.

A comprehensive search strategy will be implemented to examine the relevant literature. This will include a wide range of publication types, such as peer-reviewed journal articles, policy papers, and grey literature, encompassing materials not formally published in traditional academic outlets, including government (DepEd Memorandum).

A comprehensive literature search will be undertaken, utilizing a range of databases renowned for their vast repositories of academic resources. Specifically, this study will focus on Google Scholar and Philippine E-Journals, as these platforms are particularly relevant for research centered on the Philippine context. By leveraging these sources, the study aims to gather a diverse array of scholarly articles and publications that reflect the unique socio-cultural landscape of the region, ensuring that the findings are well-informed and contextually appropriate.

The systematic review will synthesize the findings from these diverse sources and critically evaluate the methodologies and contexts of the studies involved, providing a comprehensive overview of the current state of knowledge on the topic.

This systematic review aims to explore the enablers and barriers of research capability and readiness in public schools in the Philippines. The review will focus on literature published between 2015 and 2025, specifically targeting public elementary and secondary education contexts. Only English-language articles that examine aspects of research engagement, capacity building, or institutional readiness will be included. Keywords for the literature search will consist of combinations of terms such as "research capability," "research readiness," "public schools," "teacher research," "education research culture," "capacity building," and "Philippines." Studies focusing on private schools (unless for comparative purposes), higher education, or those lacking empirical or theoretical insight into research capability or readiness will be excluded. Eligible studies will be analyzed using a data extraction matrix capturing the author(s), year, country, study purpose, methodology, key findings, identified barriers and enablers, and any recommendations or interventions.

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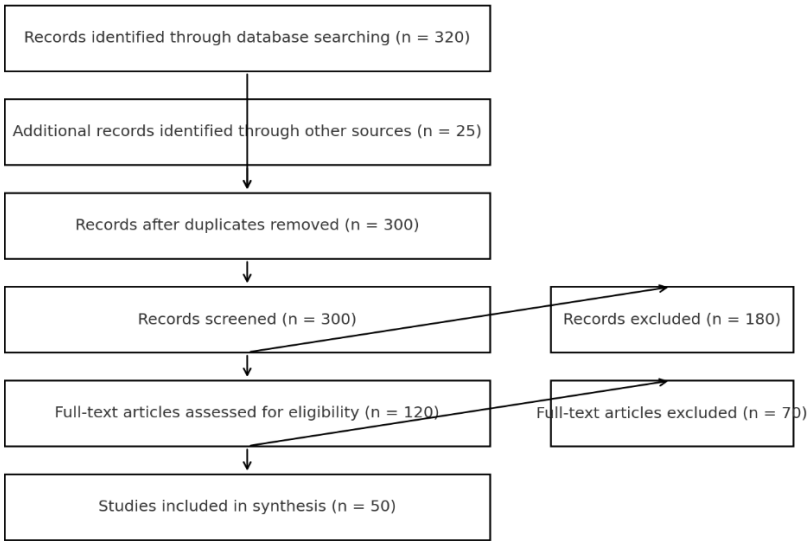
Furthermore, thematic synthesis will be employed to identify patterns and recurring concepts across the reviewed literature. As this study involves analyzing previously published research and does not include direct involvement with human participants, ethical clearance for data collection is not required. Nevertheless, proper citation and acknowledgment of all intellectual property will be strictly observed throughout the research process.

Prisma Diagram



RESULTS AND DISCUSSIONS

This systematic review yielded a set of multidimensional enablers and barriers that shape teachers' research capability and readiness in Philippine public schools. The findings reinforce the importance of synergy between individual motivation, systemic support, and professional workload management. The analysis is structured around two main themes: enablers and barriers, interpreted through the Capability–Support–Burden (CSB) Equilibrium Theory, complemented by insights from Change Management Theory and Professional Identity Theory.

Theme 1: Enablers of Research Capability and Readiness

At the individual level, psychological and motivational drivers emerged as consistent enablers. Teachers with prior exposure to research—through graduate studies, workshops, or action research—demonstrated greater self-efficacy and readiness. This aligns with Professional Identity Theory, which posits that research engagement becomes more sustainable when integrated into a teacher’s professional self-concept.

Institutionally, mentoring, structured professional development programs, and communities of practice were central enablers. Schools with embedded peer support systems reported increased participation in research. Internationally, these findings echo the role of formal mentoring systems in Singapore and U.K. research schools (Bennett et al., 2020), where leadership facilitates collaboration and knowledge sharing.

Leadership support and resource availability—such as access to digital libraries, funding, and administrative support—further enhanced readiness. Schools with dedicated research units or division-level support mechanisms saw higher uptake of research projects. These findings align with Kotter's Change Management Theory, which posits that enabling structures and short-term wins catalyze cultural transformation.

System-level enablers included DepEd's institutionalization of the Basic Education Research Fund (BERF) and research management guidelines. However, implementation effectiveness varied significantly across regions. Schools with proactive division research coordinators reported stronger outcomes.

Collectively, these enablers illustrate the importance of a supportive ecosystem. When institutional and personal resources align, teachers are more likely to adopt and sustain research engagement, validating the CSB model's assumption of equilibrium between capability and support.

Theme 2: Barriers to Research Engagement and Sustainability

Despite the presence of strong motivators, a number of systemic and cultural barriers hinder teachers' sustained participation in research. Chief among these was professional burden. Teachers reported overwhelming workloads—including instructional hours, paperwork, and administrative tasks—that left little time for research. This was compounded by limited incentives and lack of protected time for scholarly work.

Technically, many teachers lacked advanced methodological training and academic writing proficiency. This gap limited their ability to conduct publishable research, despite high interest levels. Unlike their counterparts in countries with ongoing in-service research training (e.g., Finland, Australia), Filipino teachers often rely on one-off workshops with minimal follow-up.

Leadership gaps also emerged. In some schools, principals and supervisors did not actively promote research nor model scholarly behavior. Without leadership buy-in, research was perceived as peripheral rather than integral to teaching practice.

Culturally, some schools exhibited resistance to change. A lack of psychological safety and fear of critique discouraged teachers from pursuing inquiry-based projects. This mirrors Mincu's (2018) observation that without safe, collaborative environments, innovation is stifled.

Finally, infrastructure limitations such as weak internet access, absence of research databases, and minimal local publication avenues disproportionately affected rural and under-resourced schools.

These barriers support the CSB Theory's contention that even high-capability individuals will disengage from research when support is lacking and professional burden is high. The intersection of these barriers underscores the need for multi-layered interventions.

Propositions

Based on the systematic review and thematic synthesis, the following propositions support and extend the Capability–Support–Burden (CSB) Equilibrium Theory:

1. **P1:** Teachers with high individual capability (motivation, knowledge, skills) are more likely to engage in research when institutional support mechanisms (mentorship, infrastructure, leadership) are present.
2. **P2:** Even highly capable and motivated teachers are likely to disengage from research if overwhelmed by professional burden (e.g., excessive workload, administrative tasks).
3. **P3:** Institutional support plays a dual role—it directly facilitates research engagement and indirectly offsets the effects of professional burden.
4. **P4:** The presence of collaborative environments (communities of practice, peer mentoring) amplifies both individual and institutional assets, accelerating readiness for research.

5. **P5:** Research engagement reaches optimal levels when institutional support and capability outweigh professional burdens—indicating a positive CSB equilibrium.

6. **P6:** Disruption in this balance (e.g., rising workloads or diminishing institutional support) leads to teacher disengagement and reduced research productivity.

These propositions are consistent with Change Management Theory, which emphasizes the need for enabling conditions, leadership-driven vision, and ongoing reinforcement to sustain cultural shifts. They also align with Professional Identity Theory, which highlights the significance of aligning research engagement with a teacher's evolving self-concept.

The Capability–Support–Burden (CSB) Equilibrium Theory

The CSB Theory posits that a research-oriented culture in public schools emerges from the dynamic interplay of three domains:

1. **Individual Capability**: Includes motivation, technical skills, prior experience, and confidence in research.

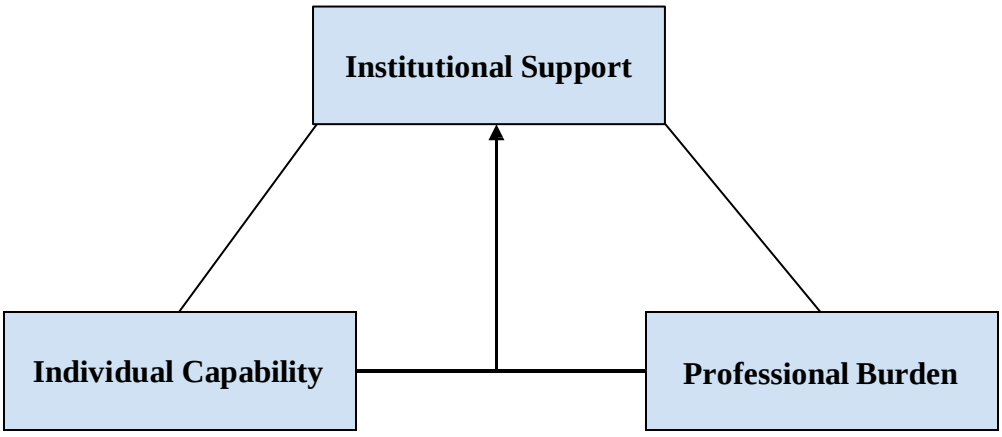
2. **Institutional Support**: Refers to training, mentoring, leadership support, time allocation, infrastructure, and recognition systems.

3. **Professional Burden**: Encompasses workload pressures, administrative responsibilities, and lack of time or incentives.

A thriving research culture is most likely when capability and support are high while professional burden is low or effectively managed. Conversely, imbalance—particularly where burden outweighs the other two factors—results in disengagement, limited output, and stagnation in research development.

Developed Theory

Proposed Theory: The Capability–Support–Burden Equilibrium Theory (CSB Theory)



The theory can be illustrated as a dynamic triangle, with arrows representing the interaction among the three domains. Policy and leadership interventions that adjust support and burden levels directly impact teacher capability and long-term research engagement.

This model offers a practical lens for policymakers and school leaders to design targeted interventions. By leveraging the CSB equilibrium, institutions can build environments where research is embedded in professional practice rather than treated as an optional or burdensome add-on.

The **Capability–Support–Burden Equilibrium Theory** posits that the research culture in public schools is shaped by the dynamic interaction among three core domains: Individual Capability, Institutional Support, and

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Professional Burden. A research-oriented culture is most likely to thrive when high capability and strong institutional support are present and professional burdens are minimized or adequately managed.

The proposed theory explains the conditions under which a research-oriented culture can thrive in public schools in the Philippines. This theory posits that research engagement among teachers is determined by the dynamic interplay of three core elements: **individual capability**, **institutional support**, and **professional burden**. Individual capability refers to teachers' motivation, foundational research knowledge, technical skills, prior research experience, and positive attitudes toward scholarly inquiry. However, capability alone is insufficient if not reinforced by institutional support, which includes access to training, mentoring, publication opportunities, research funding, collaborative spaces, and recognition systems. These support structures not only enhance capability but also help teachers navigate and overcome barriers. The third element, professional burden, manifested through overwhelming teaching loads, administrative tasks, and time constraints, acts as a significant deterrent to research engagement. The theory suggests that when institutional support is substantial and professional burdens are managed or reduced, individual capability is activated and sustained, leading to higher levels of research readiness and participation. Conversely, when support is lacking and burdens are excessive, even motivated and capable teachers struggle to make meaningful contributions to the research culture. Thus, a balanced equilibrium among these three domains is essential. The CSB Theory offers a valuable lens for schools and policymakers to design interventions that not only build research capacity but also establish a sustainable and empowering research environment in public basic education.

CONCLUSION

This systematic review reveals that developing a research-oriented culture in Philippine public schools hinges on achieving a balance between individual capability, institutional support, and manageable professional burden. While many teachers possess the motivation and foundational skills to conduct research, these enablers alone are insufficient without systemic and cultural reinforcement. Barriers such as high workload, lack of methodological training, limited access to infrastructure, and leadership gaps continue to hinder teacher engagement in research.

The Capability–Support–Burden (CSB) Equilibrium Theory provides a useful framework to understand this interplay and guide interventions. When institutional support and individual readiness outweigh the burdens imposed by the educational system, research engagement can thrive. Conversely, any imbalance—especially rising workload without adequate support—risks disengagement and cultural stagnation.

The study also emphasizes the need to embed research within teachers' professional identities and career trajectories, supported by leadership and policy coherence. Integrating research as a core component of teaching practice not only enhances instructional quality but also contributes to evidence-based policy and school improvement.

RECOMMENDATIONS

For Policymakers (DepEd and National Government):

1. Institutionalize dedicated research time in teachers' workload through formal policies.
2. Increase and equitably distribute research grants, especially in underserved regions.
3. Develop a national mentorship network for teacher-researchers, supported by regional hubs.
4. Require regular capacity-building programs in research methodology, data analysis, and academic writing.
5. For School Leaders and Division Offices:
6. Embed research into the school improvement planning process and teacher performance appraisal systems.

7. Promote school-based research conferences and communities of practice.
8. Ensure access to digital repositories, journals, and training modules through partnerships with higher education institutions.
9. Provide public recognition, career incentives, or promotion credits for teachers who engage in research.

For Researchers and Scholars:

1. Conduct follow-up studies to test the CSB Equilibrium Theory empirically.
2. Investigate variations across rural and urban contexts to inform differentiated strategies.
3. Explore the long-term impact of research engagement on student outcomes and school performance.

By adopting these strategies, the education sector can transform public schools into vibrant, research-engaged communities where teachers are empowered to generate, apply, and share knowledge in the service of continuous learning and reform.

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