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Transforming Teacher Research Engagement: Behavioral Shifts in Attitudes, Capability, and Productivity Following Professional Development

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ABSTRACT

This study examined how a university-led extension project transformed public school teachers' attitudes, capabilities, and productivity in educational research. Responding to national mandates that positioned teachers as research practitioners, the intervention aimed to strengthen foundational research skills and foster sustained engagement. Employing an embedded mixed-method design, the study analyzed qualitative reflections from 44 public school teachers in a city-level division regarding changes in their research attitudes and capability, complemented by quantitative data on research productivity over a three-year period. Findings reveal a marked positive shift in perceptions of research usefulness, reduced anxiety, and increased predisposition toward conducting research. Participants reported heightened competence and a renewed sense of professional identity as teacher-researchers. Institutional support and peer collaboration were critical in cultivating this transformation. Notably, completed papers, publications, and collaborations significantly increased, indicating that the intervention not only equipped teachers with technical skills but also inspired broader professional engagement. While most participants expressed increased motivation and confidence, isolated cases of disillusionment highlight the need to address systemic constraints, including workload and limited recognition of research efforts in career advancement. Nonetheless, the project catalyzed meaningful changes, contributing to a budding research culture within schools. The study underscores the power of thoughtfully designed capacity-building programs in elevating teachers' role as agents of inquiry and pedagogical innovation.

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INTRODUCTION

The teaching profession, which is anchored in its service to human development, has continually been confronted with challenges, requiring changes in pedagogy, policies, and instructional delivery. Inherent in its dynamic nature, the educational field has to remain responsive to emerging needs, embrace changes, and be future-ready. As a result, teachers must take on roles that go beyond instructional delivery and program implementation. They must also exhibit competence in addressing instruction-related issues and leading instructional innovation through data-informed practices. Consequently, teachers must develop strong research skills, enabling them to serve as teacher-researchers and agents of inquiry and innovation in an evidence-informed and human-centered educational environment.

Before 2010, public school teachers in the Philippines were only assigned instructional duties; however, the K-12 reform expanded their roles to include research. Recent DepEd policies, including Orders No. 24, s. 2010 and No. 39, s. 2016, have repositioned teachers as research practitioners, aligning with Republic Act No. 10533's (2013) emphasis on data-informed reforms. These developments affirm that becoming a teacher-researcher is no longer an option. Teachers must be equipped with research skills, knowledge, and a positive attitude to address instructional challenges effectively and support broader development goals.

Studies on teachers' research engagement consistently show that research productivity remains low due to lack of training (Cagaanan & Gosadan, 2018; Gonzales et al., 2020). Other studies identified research competence and workload as primary obstacles (Nasser-Abu Alhija & Majdob, 2017), while Papanastasiou (2005) emphasized that research attitude plays a significant role in research engagement. Notably, even after participation in research

training, many teachers demonstrate limited or underdeveloped research skills (Cortes et al., 2021), suggesting the need for a context-responsive mentorship (Cortes & Reyes, 2021).

This shift presents a challenge: while teachers are now expected to engage in research, many lack the necessary skills, confidence, and institutional support. In response, a university-led extension project was implemented to build foundational research competencies and foster sustained engagement. Anchored on the university's commitment to community service, offering research training to basic education highlights its role in strengthening the education sector. This mandated function of extending disciplinary knowledge and expertise beyond the university requires the evaluation of the impact of a previously conducted extension project to ensure accountability and determine whether the intervention results in meaningful changes in the community.

This study is limited to 44 out of the 55 public school teachers from one city division who participated in online sessions during the pandemic. As such, findings may not be generalizable to all divisions. Moreover, data are self-reported, which may introduce bias or subjectivity. These delimitations are acknowledged in interpreting the results.

This study is significant for multiple stakeholders. For teachers, it offers insights into professional growth and agency. For DepEd and higher education institutions, it provides evidence for designing effective capacity-building programs. Theoretically, it contributes to understanding teacher change through the lens of impact evaluation and the theory of change. Practically, it informs policy development and promotion schemes that recognize research productivity.

Research Questions

1. What changes in research attitude and research capability do public school teachers report after participating in the university-led extension project?
2. How has the research productivity of public school teachers changed three years after the intervention?
3. How do teachers perceive the benefits of their participation in the extension project on their engagement with research?

Framework of the Study

This study is anchored on Weiss' (1997) theory of change (Figure 1). The theory of change serves as a roadmap for explaining how a program was supposed to work. It details the long-term goal, the planned activities, and the expected outcomes. Importantly, it highlights the assumptions about how these stages connect and lead to the desired impact. Weiss believed that programs or projects can be designed thoughtfully and evaluated effectively to ensure a greater chance of achieving their social change goals (Weiss, 1997). It underscored the crucial role of the theory of change in driving social change, program design, and evaluation efforts. This theory relates to the concept of impact assessment, which examines changes after the intervention. International NGO Training and Research Centre (2017) cites Roche (1999), who defined the concept as "lasting or significant change—positive or negative, intended or not—in people's lives brought about by an action or a series of actions (p. 1)," which accordingly involves short-term impact. The US Government Accountability Office (2021) further stated that Program evaluations can include mid-term and long-term assessments to inform decisions about continuation or scaling.

It is also grounded on four key concepts: public teachers' attitude toward research, research capability, the challenges in doing research, and research productivity. Research attitude, a psychological construct, holds a significant influence in a person's willingness to engage in research. Rind (2020) explains that research attitude is not an innate trait but is shaped by experiences, which in turn influences a person's preference to act on research-related activities. In the work of Papanastasiou (2014), research attitude is conceptualized to consist of three domains: research usefulness, research anxiety, and research predisposition. Another key concept is research capability, which touches on the individual potential and institutional context. On the individual aspect, this refers

to the teacher's capacity to engage in research activities and eventually produce a research paper, while the institutional aspect refers to the supportive conditions to assist teachers in doing research (Pilongo, 2020).

In addition, this study is underpinned by research productivity, which is described through research outputs such as completed papers, publications, and presentations. These outputs serve as indicators of a researcher's ability to generate and disseminate new knowledge. The concept of research productivity also relates to how researchers perceive the difficulty or ease of the different research processes. The level of ease or difficulty in performing these research processes, conceived as analyzing qualitative and quantitative data, doing literature reviews, etc. (Caingcoy, 2020), may hamper the teacher's active involvement in research.

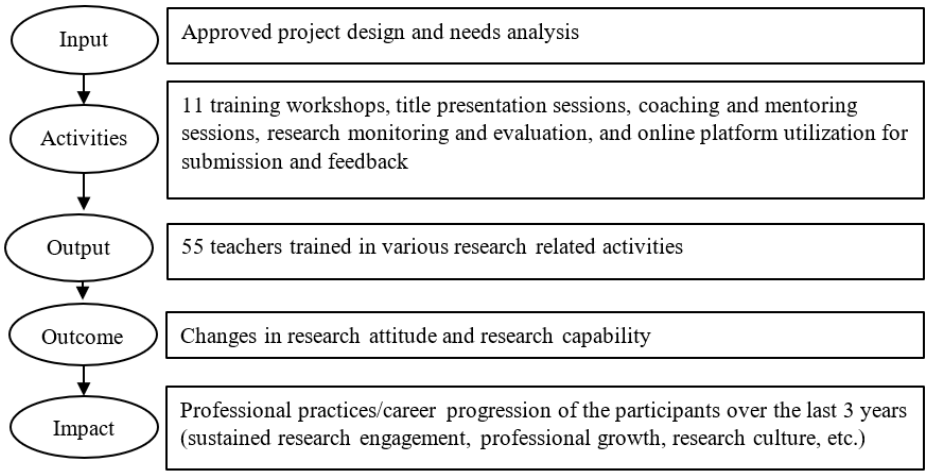
Qualitative indicators (attitude, capability, perceived impact) were mapped in both the outcome and impact, while quantitative indicators (completed papers, presentations, publications) reflected outcome-level changes.

METHODS

This study employed an embedded mixed-method design with an impact evaluation orientation, guided by Weiss' (1997) theory of change. The qualitative component dominated the design to capture nuanced shifts in attitudes and capabilities, which are best understood through reflective narratives. Quantitative data on research productivity were integrated through side-by-side comparison with qualitative themes to triangulate findings and enhance interpretive depth.

The project was conducted from 2018 to 2022 to build the research capacity of public-school teachers affiliated with a city-level basic education division. The project was delivered entirely online due to the restrictions of the pandemic. Based on average attendance, 55 teachers joined the sessions; however, only 44 participants attended at least six of the eleven sessions, resulting in a 20% attrition rate. Considering that the extension program was conducted virtually during the height of the Covid-19 pandemic, the six-session threshold on attendance was set to determine completion

Figure 1
Schematic Representation of the Study's Framework



of participation in the extension project. The intervention featured a comprehensive series of training modules, mentoring sessions, and evaluation activities designed to build participants' competencies in educational research. Inputs for the project included 11 sessions covering a wide range of topics such as ethics, action research, qualitative and quantitative research design, and data analysis.

Participants were 44 public school teachers from DepEd Bukidnon Division with teaching experience ranging from 3 to 28 years. They represented various subject areas including English, Science, Mathematics, and MAPEH. Inclusion of these demographics provides contextual richness in understanding the diversity of research experiences.

The retrospective interview questionnaire underwent expert review by three education researchers to ensure content validity. For the quantitative portion, internal consistency was assessed using Cronbach's alpha, yielding a reliability coefficient of 0.82, indicating good reliability.

The data collection process followed this sequence: (1) recruitment of participants via email and school coordination; (2) informed consent; (3) distribution of Google Forms containing qualitative and quantitative items; (4) data analysis; and (5) validation through member checking. Peer debriefing was also conducted among the research team to ensure credibility of thematic interpretations.

All participants who met the six-session threshold were sent a copy of the questionnaire via Google Forms. It was expected that all of them would answer the qualitative part of the questionnaire. According to the literature, however, at least six (6) participants were deemed sufficient for analysis (Guest et al., 2006). Those who had participated in the extension program but did not meet the six-session attendance criterion were excluded from the study.

Data Analysis

For research questions 1 and 2, thematic analysis was employed following the procedure of Braun and Clarke (2006). A framework-based approach was used, aligned with the domains of research attitude and capability to conduct research. The second research question focused on evaluating the change in research productivity over the span of five years. Data were gathered using a survey that captured the number of completed papers, presentations, and publications.

Research productivity metrics were determined using frequency count and percentage comparisons of pre- and post-intervention outputs.

Given the exploratory nature of the study and the small sample size, frequency and percentage comparisons were used to describe changes in research productivity. No inferential statistics were applied, as the aim was to capture trends rather than test hypotheses.

Ethical Statement

This study was reviewed and approved by the Bukidnon State University Research Ethics Committee. This research respected the rights of the participants. Participation was voluntary, and all responses were also anonymized and kept confidential. Participants' names will not appear in any research publication or form of dissemination unless explicit permission is granted. To ensure confidentiality, the data will be stored in a password-protected file and retained for five years before being deleted permanently.

Further, participants were told they could withdraw from the study at any time without penalty. If discomfort or stress arises when reflecting on their research productivity, the participants could take a break from answering the items, skip the items without consequence, or discontinue participation entirely. The participant may also withdraw from the study without repercussions. Participants received a modest reimbursement to cover internet-related expenses incurred during participation.

The study also recognized that the expression of researcher-related experiences and observations was couched in their socio-

cultural and institutional milieu. To observe cultural sensitivity, the responses in the written interview allowed the use of Cebuano, English, and/or Filipino. Questions were also phrased in a non-judgmental manner, and member checking was employed to ensure that the qualitative data interpretations were accurate.

RESULTS AND DISCUSSION

Shifts in Research Attitude Three Years After the Extension Project

Research attitude is conceptualized following Papanastasiou (2014) three domains: usefulness, anxiety, and predisposition. The responses of the participants on research attitude were coded to identify the categories and subcategories as well as the shifts in their perceptions. Table 1 presents the participants' perceptions on research usefulness, the categories, and sample quotes from the teacher's responses.

Table 1 reveals three major categories of research usefulness with different types of shifts. First, research was viewed as pedagogically responsive before and after the training, although this perception deepened through the use of data as the basis of instruction. Second, the participants described the progression of research as a means to professional development. A transformational shift emerged with research being conceptualized not as an additional burden but as a tool for reflective thinking and career growth. Lastly, research has been reconceptualized, marking a conceptual transformation of its function, from being viewed as procedural to becoming a tool for inquiry that emphasizes sustained and reflective thinking. While most of the participants reported positive changes in their perception of research usefulness, one of them expressed doubt on its potential to create systemic change, citing, for example, the persistent PISA issue. This transformational decline may reflect the teacher's withdrawal from active engagement in research. This reaction is not necessarily a total rejection of its function but rather an indication of critical awareness and thoughtful observation.

The observed changes in perception of research usefulness are validated by its application in the professional and personal lives of the teachers. Guided by the theory of change, the extension project on research training has served as a vehicle for reshaping and deepening the value of research in the teaching profession. This finding aligns with Karimi's (2021) assertion that, in the absence of research, education risks becoming static and losing its credibility. Palenberg (2024) also notes that, within the theory of change, influences from both internal and external factors affect the result of the intervention. In the context of this study, one critical influence is the teachers' motivation to help their learners and improve instructional delivery. This intrinsic drive, alongside the research training, proved that empowered teachers can forge sustained and meaningful transformations within their classrooms.

The changes described also reflect the principle of reflective practice, a practice that is grounded in research. It is a process of gathering and analyzing teaching-learning experiences to make informed decisions (Mathew & Peechattu, 2017, as cited in Suphasri & Chinokul, 2021). In doing so, teachers do not only make evidence-based decisions but also strengthen their understanding of the phenomenon and how solutions connect to other similar cases (Suphasri & Chinokul, 2021). As Karimi (2021) said, without reflection, it is highly possible to become outdated. Considering the developments in education and the diverse needs of learners in a single classroom, critical reflection has become an essential yet often understated skill that every teacher must cultivate, and research skills play an important role in its successful application.

In addition, the research training has contributed to a more nuanced understanding and application of professional capital. Fullan et al. (2015) explained that within the concept of professional capital, internal accountability is embedded among teachers themselves. As revealed in the teachers' responses, their sense of professionalism is unwavering. They demonstrate not only strong commitment to improving instructional delivery but also embrace it as a moral responsibility to ensure that learning takes place. They do so by identifying learning gaps, customizing materials, and selecting the

Table 1

Teachers' Changing Perceptions of Research Usefulness: Comparing Before and After the Extension Project

Category	Subcategory	Before	After
Instructional Use (Pedagogical responsiveness)	Address learner needs	Research helps address learner problems.	Still the same but this time it is evidence-based; research as a diagnostic tool
		Conducting an action research would benefit me because it gives solutions of the academic problems of the learners.	Action research has allowed me to improve my teaching strategies based on real classroom data and learner needs
	Strategy identification and IM development	It gives us useful information about the problems that exist as we teach children and it leads us to solutions and effective strategies to address such problems and challenges in teaching.	If I come across with some situations in my classroom, I can already conduct a study to investigate and study such situations and find some solutions to the problem in order to help my students.
Professional Development	From classroom use to career growth and analytical/ reflective thinking	I believed it could help improve my teaching by identifying what works and what doesn't in the classroom.	"This project influenced me a lot, particularly in my growth as a public school teacher. Professionally, it allows me to advance and elevate my level of understanding in research because, personally, the research helps me think in an analytical way of solving the problem by engaging in research."
	From research as a burden or option to research as integral to teaching and learning	"It's just an addition to my work." "…especially if the study will focus on the work environment."	"Yes, action research can improve the teaching-learning process in education. It can also address the gaps in implementing different learning programs."
Reconceptualization of research function	From activity or part of a process to reflective thinking	It is a systematic method or reviewing your practice as a teacher.	It makes us review and reflect on our practices as a teacher through the knowledge and skills gained from the training.
	Research as a problem solving tool to inquiry-based thinking	A way to find solutions to problem "research would benefit me because it gives solutions of the academic problems of the learners."	Data-based anchoring of strategy identification, IM making (evidenced-based instruction "Action research has allowed me to improve my teaching strategies based on real classroom data and learner needs."
	From research as a tool for change to doubt	Yes, I thought action research is an avenue to change our education system. Hundreds, thousands of action research were published online, learners from public suffer, low PISA result, they are being used for study, but I believe we are still at the bottom.	No. Not at all. Professionally? I doubt in my case, for some maybe but not in my watch.

appropriate methods of instruction. In all these processes, well-developed research skills and the recognition of their value in instruction play a vital role.

In impact studies, it is possible that an intervention may produce negative results as well as primary and secondary effects (INTRAC, 2017). While the majority of the participants experienced positive changes, one participant seemed to be experiencing a loss of enthusiasm in the power of research to contribute to change. However, this perception is not a reflection of the extension project's weakness; rather, it is an authentic expression of the mismatch between individual-level efforts and the larger educational system. According to Palenberg (2024), the theory of change does not always imply transformation. Further, he explained that external unplanned and evolving events, in this study's case the PISA result, can affect sustained momentum.

This expression of doubt, however, is valuable. It opens conversations about personal agency and its limits when it comes to creating wider educational reforms. It also provides insights for intervention studies to consider possible effects of external influences in determining the impact of community extension projects. In the Philippine educational setting, where public teachers are assigned multiple curricular and extracurricular tasks (Montañez, 2024; Into & Gempes, 2018), the said observation is accepted as a constructive input. Perhaps teachers need more support for their research productivity to be recognized and scaled, especially in a system where producing a research paper is not considered for promotion. The university may consider establishing closer linkage with basic education schools to possibly assist in transforming research outputs into pedagogical enhancement and/or policy and procedure inputs.

In Table 2, a comparison of the teachers' responses before and after their participation in the extension project is presented, noting the changes in their perceptions on two dimensions of research attitude—research anxiety and research predisposition.

Table 2

Teachers' Changing Perceptions of Research Anxiety and Predisposition: Comparing Before and After the Extension Project

Subcategory	Before	After
On Research Anxiety		
Doubt to confidence/ interest in doing research (overlaps with predisposition – interest/ enthusiasm	It made me anxious since it is hard to do something when you are not knowledgeable enough on how to do it right."	I feel more interested to do it. What I learned about it can guide me in conducting the action research."
	"Before the training, I felt overwhelmed, as I was unsure about the process and whether I could carry it out effectively. However, there was also a sense of curiosity and openness to learning something new that could improve my teaching."	"I now feel more confident and interested when conducting or thinking about action research, as I better understand its value in improving my teaching and student learning."
Anxiety due to time and workload	It was mixed emotion. I was overwhelmed because of the opportunity of learning but I was quite worried of the limited time considering that I am working full time."	"I'm really interested and challenge but due to time constrains, I can't make it to the given deadlines."
On Research Predisposition		
Attitude Reversal	"I am not fond of conducting research."	"I am positive in conducting research."
Interest to disillusionment	"At first, I am excited. Because I thought it would have a positive impact both on my learners and career path. But I failed on those matters."	"Challenging? With the AI tool nowadays, everything is given. I felt I was wasting my time doing such."

The subcategories under research anxiety revealed a transformational shift from doubt to confidence and a sustained perception stemming from time constraints. Evidently, the extension project on research has reduced the participants' anxiety, fostering confidence and interest. This finding aligns with previous research showing that anxiety in research-related activities can diminish one's confidence (Mensah et al. 2023). This shift is important because research anxiety can negatively impact the production of research outputs and may cause burnout (Razavi et al., 2017), which may lead to interest attrition in the long term.

The overwhelming feeling of learning new skills coupled with multiple tasks and limited time can cause anxiety that is sustained before and after participation in the research sessions. This structural limitation is beyond the scope of the project, a concern that has been echoed not only in the current study but in other studies as well. These studies seemed to show how the teachers' lives have been occupied by the relentless demand of work (Montañez, 2024; Into & Gempes, 2018), blurring the boundary between personal and professional life; teaching has been an ultimate test of inner fire, but perhaps for teachers there is nothing mightier than purpose forged by passion. Still, nothing is lost in the desire to be freed from ancillary work.

Changes in the Teachers' Capability to Conduct Research

Support from Administration

Table 3 shows that before the extension project, the participants expressed that support in the form of in-service training was available, but this was not deeply institutionalized with some school heads showing disinterest in the conduct of research. After the intervention, there is a noticeable improvement in administrative initiative, particularly from school principals. The collaborative engagement made research more appealing and manageable. This shift in administrative support suggests that when school leadership actively supports research, the teachers find it an expected deliverable. This finding is in consonance with the study by Leithwood et al. (2020), which reveals that active administrative backing creates a culture where research is valued and promoted as part of teachers' professional responsibilities, enhancing motivation and institutional commitment to research activities.

Table 3
Changes in the Teachers' Capability to Conduct Research

Subcategory	Before	After
Consistent support from the administration		
From technical guidance to motivational support	"In-service training on how to conduct action research in our school has helped us to learn more about it, and it clarified our confusion about each part. It also encouraged us to conduct one."	"The initiative and support of the school principal matter. Their encouragement helps too. With the training we received, teachers can now support one another. "
Empowerment	"It is 100% support from our research coordinator; the problem is in the field, such as the school head, who is not interested in conducting research."	"Yes, the teachers can make their study."
Access to resources and time to do research		
Adequacy of resources, but limited time	"Yes, I had time, resources, and access to tools..."	"I had time, resources, and access to tools because I have an internet connection and research books as a reference."
No resources or limited resources to a limited time	"We do not have enough resources at school."	"We do not have enough time."
Personal competence		
Continued research effort despite persistent limitations	"Although I have a background in research, I still find it hard to make and finish my action research because of limited time..."	"I guess I am capable; however, due to time constraints, both in my work and as a solo parent, it slows down my momentum, but I am still pursuing and looking into it to finish my action research."
Low initial competence to capability	"Before the training, I felt only slightly capable of completing a research study…"	"…the training helped improve my capability in completing my action research."
No interest to engagement	"Not interested."	"Not to brag, I can conduct a research study because of the training I attended."

Access to Resources and Time to do Research

This subcategory shows both difficulties and improvements in the field. Some teachers mentioned having access to the internet and reference materials, both before and after the training. However, others consistently reported a lack of resources and time as major hindrances. However, the primary concern now is time pressure—most teachers report that they are under pressure due to heavy teaching loads, additional duties, and personal demands as previously mentioned. This indicates that although training has improved awareness and technical skills in action research, it has not alleviated the problems inherent in our system's hectic workload. This finding was supported by Guzman and Aguilar (2025) who identifies financial and time limitations as primary barriers to teachers' professional development, which includes engagement in research activities. Despite professional development opportunities, time constraints due to heavy workloads persist as significant challenges that hinder teachers' ability to apply research skills effectively. This underscores the systemic nature of workload issues beyond the scope of training interventions.

Personal Competence

The extension project showed that it improved the teachers' self-assessed capability to do research. The training did not eliminate the limitations but empowered the teacher to engage in research studies. However, the data also show that the value placed on research is dependent on observed benefits. For example, the loss of interest was attributed to the perception that research did not offer benefits for learners and career growth. This finding points to two suggestions: (1) Longer engagement in sessions that promote research utilization in the classroom is suggested. Teachers may benefit from further guidance on the conduct of action research and witness firsthand the small but meaningful changes it can bring to teaching and learning. This process may take time, and, considering their ancillary tasks, such realization may be delayed. In the absence of this opportunity, the value of research may appear abstract and disconnected from its practical application in the classroom. (2) The reward system for teachers who conduct research must also evolve to support the motivation to sharpen research skills and sustain the teachers' research engagement. Research indicates that sustained professional development coupled with institutional support and recognition plays a critical role in maintaining teachers' motivation and research productivity, by reinforcing the practical benefits and linking research efforts to career advancement and improved teaching outcomes (Abella et.al., 2025).

Research Productivity of Public School Teachers Three Years after the Extension Project

The table below indicates a marked increase across multiple indicators of research productivity among public school teachers five years after the implementation of the extension project. These indicators include completed research papers, proposed titles, conference presentations, publications, collaborations, and research advising. The cumulative growth reflects not only enhanced individual capabilities but also the broader institutional effects of sustained capacity building. These improvements suggest that the project successfully fostered both individual capacity and institutional momentum.

Table 4 presents an upward trend in research output, which is strongly supported by qualitative data gathered during interviews. Participants consistently attributed their achievements to the BukSU-led research training, affirming its role as a pivotal enabler. One participant said that "It helps me improve my research skills." This straightforward affirmation highlights skill development as a core impact of the intervention. Capua et al. (2025) emphasize that targeted workshops and hands-on activities bolster teachers' methodological and analytical abilities, which directly translate into higher-quality research output. The increase in completed papers and published work in your quantitative data underscores this.

Another participant said that "It's attributed to BukSU because it helped me to do more researches in the field." This points to real-world application and research as a continuous process beyond the classroom. Zeichner (2003) asserts that effective professional development facilitates teachers' evolution from classroom practitioners to contributors of knowledge through field-based inquiry. This aligns with the noted growth in proposed titles and collaborations. Further, a participant said that "*My full participation helped me make it my goal. The enabling project in research helped me build confidence in my work because there is somebody who can help affirm it.*" Here, the mention of affirmation and mentorship echoes findings by Samosa (2021), who links increased self-efficacy to environments that validate teacher-researchers' efforts. The fact that one teacher transitioned into an advisory role highlights how confidence can cascade into leadership.

Table 4

Research Productivity of Public School Teachers

Research Productivity		Before the Extension Project	After the Extension Project	% of Change
1.	Completed research paper	3	10	233
2.	Research Titles Proposed (submitted to school or division for approval or funding	11	14	27
3.	Research Presented in Conferences	5	6	20
4.	Research Published	1	5	400
5.	Research Collaborations	2	4	100
6.	Research Advising	0	1	From 0 to 1

Furthermore, one participant said that "The training really helped me a lot. Before I had no motivation to do it because I honestly didn't know how. But now that I've been able to do it, the trainings truly are helpful." This statement illustrates a transformation from apprehension to engagement. According to Cochran-Smith and Lytle (1999), such shifts often occur when teachers receive sustained support, shifting research from abstract theory to empowered practice. The dramatic increase in published work (+400%) may well reflect similar breakthroughs across the cohort. These reflections suggest that the intervention did not merely provide technical skill sets—it fostered a mindset shift toward research as a purposeful, empowering activity. This is consistent with Capua et al. (2025), who found that well-designed capacity-building programs elevate not only competence but also self-efficacy and long-term engagement. Similarly, Samosa (2021) emphasized that reducing research anxiety and creating affirming spaces are essential for sustained productivity.

The responses also highlight how the

project catalyzed intrinsic motivation—teachers began to see research not as a mandated task but as a goal aligned with personal and professional growth. This mirrors Adefuye et al. (2021), who stressed the importance of fostering environments that normalize inquiry as part of everyday teaching practice. The steady rise in publications, presentations, and collaborations indicates that such a culture may now be taking root. The sustained improvements in productivity mirror trends documented in research on long-term capacity-building efforts. Capua et al. (2025) note that multi-year research interventions are most effective when they combine skill development with peer collaboration and embedded mentorship. The data here reflect that trajectory—teachers not only write more but are increasingly involved in collaborative and advisory roles.

These quantitative gains illustrate that the extension project had a lasting effect—not just in boosting productivity, but in shifting the professional identity of teachers toward being active contributors to educational knowledge. The increases in advising and collaboration suggest a growing internal research culture where experienced teacher-researchers are beginning to mentor others, promoting sustainability and institutionalization. Replicating this extension project may consider the inclusion of research mentoring and integrate the use of technology to assist teachers in doing research.

Impact of the Extension Project on Enabling Public School Teachers in Research

The interview data yielded three themes that portray how the extension project serves as a turning point in the professional lives of the participants. Figure 2 presents these themes, categories, and sample lines from the written interview.

Shift in Mindset and Confidence

The participants' reflections highlighted transformative shifts in how they view research and themselves as researchers. One is an increase in confidence to conduct research independently. Their understanding of the purpose of research has led them to use it as a tool to better serve with purpose. As a form of reflective practice, their research training has allowed them in the long term to explore further their classroom experiences and address instruction-related needs. Research has found a niche in the improvement of pedagogical practice.

Research capability building significantly enhances the research confidence of teachers by equipping them with necessary skills, knowledge, and support systems. This is evident from various studies that highlight the positive impact of structured capacity-building programs on teachers' research engagement and self-efficacy. These programs not only improve technical skills but also foster a supportive environment that encourages continuous professional development and research involvement. Capability-building programs are designed to address specific gaps in teachers' research skills, such as critical evaluation, methodological application, and academic writing. These programs have been shown to improve teachers' self-assessed research competence, particularly in areas where they initially felt less confident (Capua et al., 2025). Capua et al. (2025) also added that continuous professional development through seminars and workshops is crucial for enhancing teachers' research capabilities. Such initiatives provide teachers with the opportunity to engage in research activities, thereby boosting their confidence and competence in conducting research.

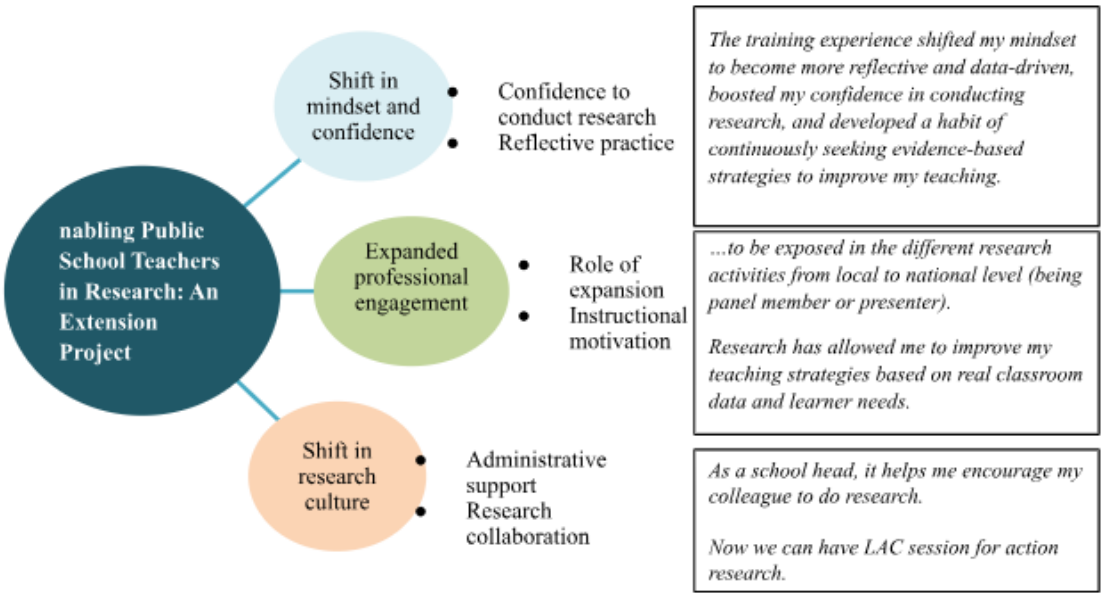
Participants expressed a newfound belief in their ability to engage with and conduct research independently. This confidence stemmed from the project's framing of research as a purposeful, reflective practice deeply tied to improving classroom instruction. Teachers reported that they now view research not as a technical or academic burden but as a practical tool for professional reflection and pedagogical refinement. Such shifts signify not only increased capability but also greater ownership of their roles as educators and knowledge contributors.

Expanded Professional Engagement

The second theme is Expanded Professional Engagement. The training has paved the way to broader opportunities, from classroom practitioners to national research engagements and active involvement in knowledge creation and discovery. Grounded on their understanding of classroom data, the participants have engaged in instructional innovations such as the construction of age- and needs-based activities to improve the delivery of instruction.

Figure 2

Impact of the Project Enabling Public School Teachers in Research



Research capability building significantly enhances the professional engagement of teachers by fostering their skills in research and pedagogy. This engagement is crucial for evidence-based practices and informed decision-making in educational settings. While qualitative data revealed that teachers embraced broader professional roles—engaging in instructional innovation and national research initiatives—the quantitative result showing a significant decline in the perceived usefulness of action research invites a more layered interpretation.

This paradox suggests that while teachers are increasingly involved in research-related activities, their confidence in action research as a practical tool may be waning. Several studies help illuminate this tension. For instance, Cochran-Smith and Lytle (1999) argue that action research demands time, sustained inquiry, and institutional support—resources often scarce in public school settings. Without these, teachers may struggle to see its immediate relevance to classroom practice. Further, Zeichner (2003) emphasizes that professional development must go beyond technical training to foster critical inquiry and collaborative reflection. When action research is reduced to a compliance task rather than a reflective endeavor, its perceived value diminishes.

In the Philippine context, Tarrayo et al. (2021) found that while teachers recognize the potential of research to improve pedagogy, they often face systemic barriers such as workload, lack of mentorship, and limited access to research communities. These constraints can erode enthusiasm and lead to disengagement. Thus, the decline in perceived usefulness may not reflect a rejection of research per se, but rather a disconnect between the ideals of professional engagement and the realities of implementation. Teachers may be expanding their roles, but

without adequate scaffolding, action research risks becoming an abstract concept rather than a transformative practice.

To reconcile this, future extension projects should embed ongoing mentorship and peer collaboration to support action research. Extension projects could also align research activities with teachers' immediate instructional challenges. This approach could restore faith in action research as a meaningful tool for professional growth, reinforcing the broader theme of Expanded Professional Engagement.

Shift in Research Culture

The research training, increased confidence to do research, and expanded roles of the participants as teacher-researchers have become catalysts in cultivating a shift in research culture. In defining research culture, Tikhonova and Raitskaya (2024) cited Adefuye et al. (2021), who identified three elements that make up a research culture: actions, environment, and daily routines within an institution. Research capability building plays a crucial role in fostering a shift in the research culture among teachers. By enhancing teachers' research skills and confidence, capacity-building initiatives can lead to a more robust engagement with research practices, ultimately benefiting educational outcomes. This is supported by the study of Samosa (2021), which found that capacity-building programs significantly improve teachers' self-efficacy in conducting research. Further, increased self-efficacy correlates with reduced research anxiety, enabling teachers to engage more actively in research activities (Samosa, 2021).

Perhaps most notably, the participants' evolving roles have contributed to fostering a nascent research culture within their institutions. Drawing from Adefuye et al. (2021) and Tikhonova and Raitskaya (2024), this culture reflects a dynamic interplay of daily routines, organizational environment, and deliberate research-related actions. The teachers not only initiated their own inquiries but also began modeling research-oriented mindsets to their colleagues—suggesting the project's ripple effect toward sustainable institutional change.

CONCLUSION

The research-focused, university-led extension project offered to public teachers fostered meaningful transformations in terms of personal growth, professional practice, and institutional engagement. Research was no longer viewed as an added burden but as a process that nurtures reflective and inquiry-based thinking, which are essential in pedagogical refinement and professional development. The project cultivated a favorable attitude and environment toward research, evidenced by the increased research productivity in a span of three years. Despite a few divergences in experiences, the overall findings point to a carefully structured capacity-building initiative that is relevant and well-sustained, contributing to the teachers' constructive research engagement and a more research-informed culture at the school level. These results affirm the sustainability of university–DepEd partnerships in fostering research-informed teaching practices.

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