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Standardizing the Implementation of School-Based Inset: a Positive Leverage to Responsive and Sustainable Framework

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Abstract:

This study examined how school-based In-Service Training (INSET) contributes to enhancing teacher competence and instructional quality in selected public elementary schools in the North District Division of Mandaue City for the 2024–2025 school year. The study aimed to assess the level of implementation of learnings from INSET in classroom instruction, the perceived effectiveness of INSET in terms of training content, delivery mode, and scheduling, as well as the challenges encountered by both teachers and school leaders in planning, implementing, and evaluating INSET programs. The respondents included school heads and teachers, whose demographic profiles were analyzed in terms of age, gender, educational attainment, years of experience, and participation in training. Results showed that both groups had substantial involvement in INSET, with many teachers having attended 16 or more training sessions. The level of implementation of INSET learnings was rated as "Always" across both instructional practices and learner-centered approaches. The relevance of training content was identified as the highest-rated aspect of INSET effectiveness, while online delivery received the lowest—but still favorable—ratings. A chi-square test revealed a statistically significant association between the frequency and quality of INSET and observed improvements in teaching strategies and learner outcomes. Significant challenges identified included inadequate ICT tools, poor scheduling, and limited teacher involvement in the planning process. Based on the findings, the study developed a School-Based INSET Framework designed to address context-specific needs, enhance training effectiveness, and promote sustainable professional development. The framework emphasizes collaborative planning, differentiated delivery modes, continuous monitoring, and post-training

support. This study highlights the critical role of well-structured INSET programs in achieving instructional excellence and learner success.

Keywords: Development Education, INSET, instructional practices, learner-centered approaches, teacher competence, professional development, framework, Mandaue City, Cebu, Philippines.

Chapter 1

THE PROBLEM AND ITS RESEARCH DESIGN

INTRODUCTION

Rationale of the Study

School-based in-service training (INSET) is a crucial component of modern educational systems. It aligns with evidence-based practices that equip teachers with the tools they need to enhance their teaching by employing proven methods in the classroom (DuFour & Eaker, 2004; BERA & RSA, 2024). School-based INSET differs from one-time seminars in that it provides ongoing, context-specific development that encourages reflective practice, introduces new teaching approaches, and offers opportunities for learners to learn together. Customizing professional development to meet the unique requirements of schools and their learners ensures relevance, practicality, and lasting impact on educational outcomes.

The COVID-19 pandemic highlighted the need for teachers to receive better training, making the requirement for practical in-service training (INSET) even more pressing. Teachers worldwide, including those in the Philippines, faced significant challenges transitioning to remote instruction. These encompassed restricted digital literacy, minimal student engagement, and indistinct demarcations between personal and professional obligations (Ali et al., 2021; Dayagbil et al., 2021). These issues remain significant in Mandaue City. Teachers frequently face challenges such as insufficient ICT integration, limited proficiency in online pedagogies, and ongoing internet connectivity issues—obstacles that substantially impede the delivery of high-quality instruction in both online and hybrid learning environments.

There have been significant issues with DepEd-led INSET programs at the regional level, particularly in Region VII. Although digital infrastructure is available, many teachers still lack sufficient access to technology tools (Arinto, Dunuan, & Sasing, 2020). The lack of skilled facilitators and suitable training venues has also made INSET programs less effective (Exploring In-Service Training Programs, 2024). These systemic limitations render professional development programs less effective, resulting in low participation, limited engagement, and reduced scalability.

Another ongoing problem is that teachers are often assigned to teach subjects that do not match their areas of expertise. As many as 62% of high school teachers in the Philippines are assigned to teach subjects that are not their area of expertise. Science teachers are especially burdened (PIDS, 2025). In Mandaue City, this misalignment makes it very hard to provide accurate and helpful content. Because of this, INSET needs to do more than teach general teaching methods. It needs to provide focused, subject-specific training to help teachers improve their content knowledge and teaching skills in important areas of learning.

A responsive and localized INSET model is recommended for Mandaue City to address these issues. This includes cascade training, in which expert teachers or master teachers receive initial training and then coach their peers, encouraging everyone to take responsibility for their learning (El-Hamamsy et al., 2023). Additionally, using lesson study practices, in which teachers collaborate to plan, observe, and refine lessons, encourages teachers to improve their teaching methods continually (Lewis et al., 2020). Ultimately, creating Communities of Practice (CoPs) can facilitate

collaboration among teachers, enable them to ask questions, and seek assistance from one another (Talafian et al., 2023).

To get the most out of INSET, the infrastructure and facilitation need to be better. To ensure that the ICT training is helpful for their teaching, teachers should receive it from knowledgeable coordinators (Arinto et al., 2020). Furthermore, facilitators should be chosen based on their subject matter expertise and pedagogical proficiency to ensure the effective delivery of content (Exploring In-Service Training, 2024). Training locations should have reliable internet, sufficient teaching materials, and flexible schedules to minimize interference with teaching workloads. This makes training both accessible and valuable.

Mandaue City will see significant improvements in teacher skills and classroom effectiveness thanks to these focused changes. A well-planned school-based INSET program can help learners learn more about the subject, use digital tools more, work together better through CoPs and lesson studies, and, in the end, get better results. These results align with the national education agenda and demonstrate a global need for professional development for teachers that is inclusive, adaptable, and evidence-based.

Theoretical Background

The implementation of school-based In-Service Training (INSET) is grounded in contemporary educational theories and concepts that prioritize

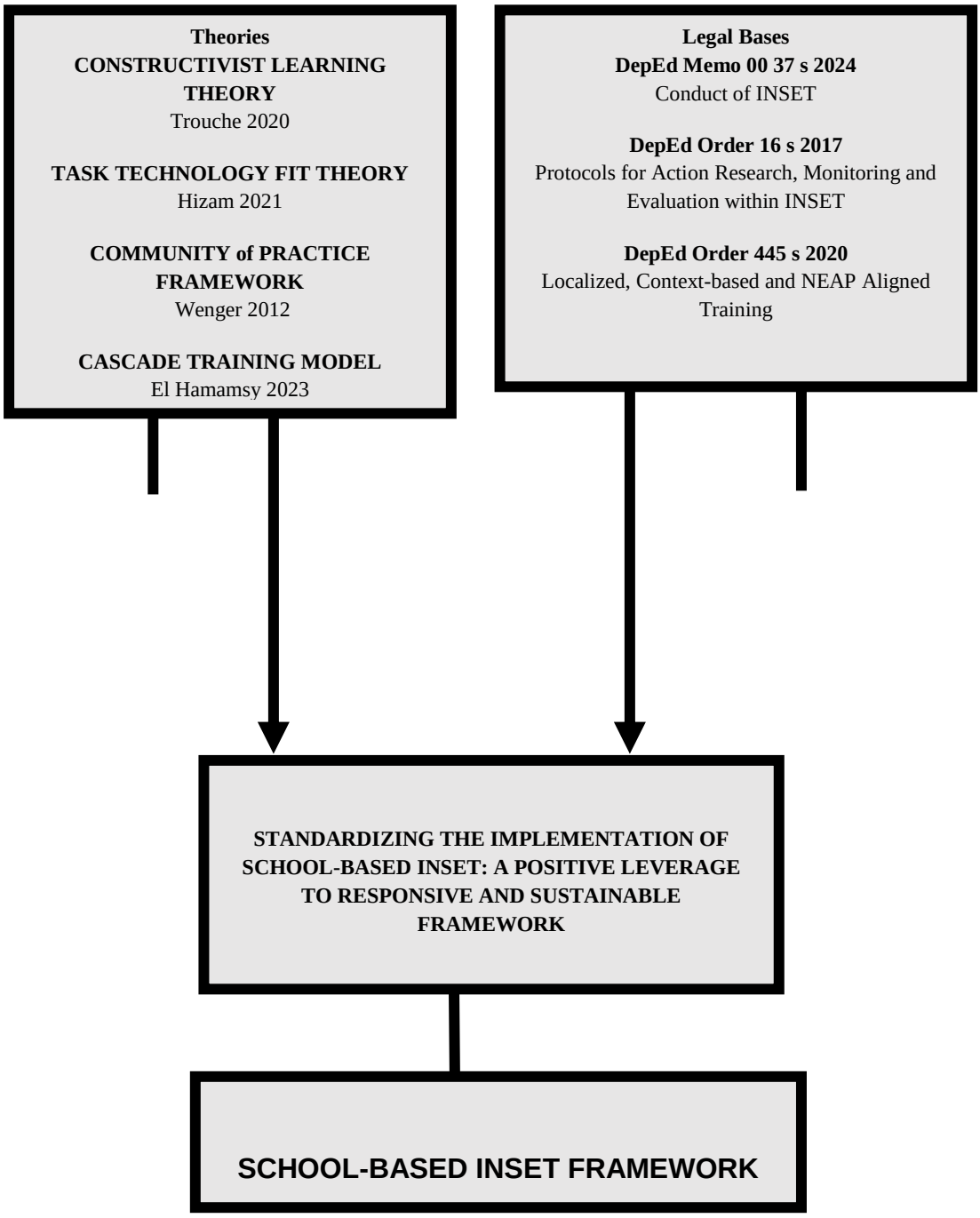


Figure 1
Theoretical Framework

Teacher development, professional collaboration, and contextualized learning. The incorporation of Constructivism, Task–Technology Fit (TTF), Communities of Practice (CoP), and the Cascade Training Model in this study provides substantial insights into the practical design and implementation of school-based in-service training (INSET) in Mandaue City.

Constructivist Learning Theory is one of the key concepts underlying INSET. It states that learning is an active, constructive process shaped by the learner's experiences. Trouche (2020) asserts that educators advance professionally by interacting with resources in significant manners, facilitating the recontextualization of their pedagogical approaches through introspection and collaborative

learning. This theory supports the idea that school-based collaborative activities, such as lesson studies and peer coaching, are important for INSET because they help teachers become more aware of their teaching practices and adapt to different situations.

Constructivism, as highlighted by Trouche (2020), advocates for reflective practice and collaborative learning in professional development, underscoring that educators generate new knowledge through engagement with colleagues and contextual resources. This method aligns with the way INSET works, where teachers collaborate to plan lessons, provide feedback to one another, and learn more about effective teaching practices.

The Task–Technology Fit (TTF) Theory further supports the use of technology in professional development, particularly as schools transition to more digital platforms following the pandemic. Hizam et al. (2021) found that digital competency has a substantial impact on teachers' ability to utilize technology effectively in meeting instructional requirements. When ICT tools are relevant to what teachers do, like learning management systems, digital resources, or assessment software, professional development becomes more valuable and applicable. According to TTF theory, INSET sessions should not only introduce technology but also provide teachers with an opportunity to practice using it in a way that aligns with their daily teaching duties.

The TTF theory (Hizam et al., 2021) supports the integration of ICT-focused training in INSET by asserting that technology is most efficacious when it is directly aligned with teachers' instructional responsibilities. This theoretical framework assists the study in assessing whether the existing INSET programs in Mandaue City adequately prepare teachers with the digital competencies required for 21st-century learning environments.

Wenger's Community of Practice (CoP) framework is another important concept that is gaining popularity in teacher professional development. CoPs are informal groups where teachers discuss their experiences, challenge each other's ideas, and support one another's professional growth. Talafian et al. (2023) emphasized that CoPs significantly enhance the quality of teaching when they are sustained and have a clear objective. In the school-based INSET model, CoPs encourage teachers in Mandaue City to continue learning beyond formal training sessions and collaborate to develop innovative teaching methods. This makes professional development more meaningful and long-lasting. Furthermore, the CoP framework (Talafian et al., 2023) supports the study's assertion that collaborative practices should be integrated into INSET programs. CoPs encourage teachers to stay involved and share their knowledge after formal training days, making INSET more effective and lasting.

The Cascade Training Model is also beneficial for expanding INSET and sustaining it. This model trains master teachers or facilitators, who then share their knowledge and expertise with their peers at their schools. El-Hamamsy et al. (2023) demonstrated the effectiveness of this approach in expanding the reach of digital education in primary schools in developing areas. This study employs a cascade model to integrate training into the school system, enhance leadership capacity among teachers, and diminish reliance on external trainers. The Cascade Training Model (El-Hamamsy et al., 2023) also helps schools develop teachers in a way that is both scalable and cost-effective. It achieves this by allowing trained facilitators or master teachers to coach their peers, creating a ripple effect throughout the school system. DepEd Memorandum DM-OUHROD-2024-0037 and Division Memorandum No. 445, s. 2020, back up these theories. They emphasize training that is localized, tailored to the situation, and aligned with NEAP. This supports the theoretical idea that INSET should be helpful, relevant, and open to everyone. These frameworks not only clarify the study's ideas but also provide a valuable way to assess the strengths and weaknesses of current INSET practices and suggest changes based on both theory and policy.

Sweller's Cognitive Load Theory (CLT) states that learners can only hold a limited amount of information in their working memory at once, so teachers must consider how they present information to avoid overwhelming the cognitive system. Ayres and Paas (2020) suggest that learning is most effective when the materials used for instruction effectively manage the three types of cognitive load: intrinsic (the difficulty of the task), extraneous (the presentation of the information), and germane (the effort required by the student to learn). Poorly designed lessons can make it harder for struggling students to process and remember information by adding extra load. Therefore, CLT-based interventions focus on making things easier to understand, organizing tasks in the correct sequence, and utilizing visual aids or scaffolds to facilitate comprehension.

Chunking information into smaller parts, using guided practice, and incorporating worked examples are among the most recent educational interventions based on CLT that help reduce cognitive overload. These strategies help students who struggle to focus their mental energy on learning the most essential ideas rather than trying to decipher confusing instructions or too much information. Chandler and Howard (2021) emphasize that instruction that considers cognitive load leads to a deeper understanding and better retention, particularly for students who initially find tasks overwhelming. Therefore, teachers can create learning experiences that are easier to understand, more helpful, and more effective by incorporating CLT principles into their intervention frameworks.

The Department of Education has issued policy frameworks and official guidelines that back up these ideas. DepEd Memorandum DM-OUHROD-2024-0037 is important because it provides the national guidelines for implementing INSET for the school year 2023–2024. It emphasizes the importance of context-based training, participating in NEAP-recognized programs, and utilizing school breaks to support teacher growth. DepEd Order No. 16, s. 2017, and Division Memorandum No. 445, s. 2020 also set rules for action research, monitoring, and evaluation within INSET. This ensures that training programs are based on data and can effectively respond to problems at the school level.

The national directive for planning, carrying out, and evaluating teacher training activities during school breaks is DepEd Memorandum DM-OUHROD-2024-0037, titled "Guidelines on the Conduct of In-Service Training (INSET) for Teachers for School Year 2023–2024." This memo emphasizes that professional development should be conducted at both the school and community levels. It advises schools to identify their own learning needs and plan INSET sessions that address gaps in teaching, content knowledge, or classroom management. The memo also states that INSET activities must align with DepEd's MATATAG agenda, NEAP-recognized learning programs, and the teacher development priorities derived from the e-SAT and IPCRF results. This alignment ensures that teacher development is grounded in data, relevant to the situation, and responsive to needs. This is a key principle of this study's goal to assess and improve INSET practices in Mandaue City.

In the post-pandemic world, the memo's allowance for flexible delivery methods, including face-to-face, blended, and purely online training, is crucial. The memo supports the idea that teacher training should now include technology integration, digital pedagogy, and various teaching approaches that consider the differing access to ICT tools among teachers. Additionally, it promotes the involvement of local school leaders and subject group heads as facilitators or co-developers of training content, thereby strengthening theoretical frameworks such as constructivism, task-technology fit, and cascade training. The study benefits from this policy by providing insights into how national guidelines facilitate or hinder the effectiveness of INSET at the division level, especially in a mixed-urban setting such as Mandaue City, where disparities in resources, training capacity, and digital readiness are pronounced.

Lastly, the memo significantly contributes to the study's framework for determining the effect it had. DepEd encourages accountability and continuous improvement by having schools utilize standardized reflection tools, post-training evaluations, and participant feedback mechanisms to monitor and evaluate their INSET programs. This offers researchers a significant data source to assess participation rates, training outcomes, implementation gaps, and the sustainability of strategies introduced during INSET. It also allows the study to determine whether INSETs at the school level are merely procedural or truly practical in changing things. In short, DepEd Memorandum DM-OUHROD-2024-0037 is not just a tool for compliance; it is a strategic framework that sets the direction, depth, and relevance of teacher professional development nationwide. It also strongly supports the purpose and design of this localized research.

These theoretical and policy foundations provide a comprehensive framework for evaluating and improving the implementation of INSET in Mandaue City. By basing the study on constructivism, TTF, CoP, and the cascade model and ensuring it aligns with DepEd policies, the research can identify specific areas where teacher development can be improved. Ultimately, this results in more effective, practical, and long-lasting professional development practices that enhance both teaching and learning in public schools.

THE PROBLEM

Statement of the Problem

This study examined how school-based In-Service Training (INSET) contributes to improve teaching-learning competence and instructional quality in selected public elementary schools in the North District Division of Mandaue City, as basis for crafting a responsive and sustainable school-based INSET framework.

Specifically, this study sought to answer the following questions:

1. What is the demographic profile of the respondent groups in terms of:

1.1 School Heads'
1.2 age and gender,
1.3 Highest Educational attainment,
1.4 Length of teaching experience,
1.5 Number and types of INSET or professional development training attended,
1.6 years in leadership, and
1.7 Participation in INSET program planning and evaluation,
1.2 Teachers'
1.2.1 age and gender,
1.2.2 highest educational attainment,
1.2.3 length of teaching experience,
1.2.4 number and types of INSET or professional development trainings attended?

2. As perceived by the respondent groups, what is their level of learnings in the implementation of INSET as to:

2.1 instructional practices, and
2.2 learner-centered approaches?

3. What are the perceptions of the respondents on the effectiveness of INSET as to:

3.1 relevance of training content,
3.2 mode of delivery (e.g., face-to-face, online, blended),
3.3 timing and scheduling of sessions?

4. What is the association between the level of learnings in the implementation of INSET and the effectiveness of INSET observed in teaching practices and learner outcomes?
5. What challenges or barriers do teachers and school heads encounter in school-based INSET?
6. Based on the findings, what responsive sustainable school-based framework can be developed?

Null Hypotheses

H01: There is no association between the association between the level of learnings in the implementation of INSET and the effectiveness of INSET observed in teaching practices and learner outcomes.

Significance of the Study

The objective of this study was to gain insights into the implementation and effects of school-based In-Service Training (INSET) for educators in designated public elementary schools within the North District of Mandaue City. The results were helpful to the following groups:

DepEd. This study helped DepEd officials enhance their approach to developing, delivering, and evaluating professional development programs. It supported the agency in crafting policies that promoted evidence-based INSET practices, addressed teacher needs, and ensured sustained effectiveness over time. The findings informed the development of new guidelines to ensure that training programs bridged teachers' skill gaps and aligned with the national learning recovery and MATATAG agenda.

Education Policy Makers. The study was significant for education policy makers as it provided evidence-based insights into the effectiveness and limitations of existing INSET programs. It guided the development of more responsive and needs-driven professional development policies aligned with classroom realities. By understanding teacher experiences and INSET outcomes, policy makers were able to allocate resources effectively, enhance training content and delivery, and institutionalize sustainable models to improve teaching quality and learner achievement.

School Administrators. The findings enabled school heads and supervisors to better plan, monitor, and improve school-based INSET programs. The study helped them identify the professional development needs of their teachers and implement more strategic and targeted training initiatives. The data also supported the justification for additional resources—such as qualified facilitators, improved training venues, and ICT tools—to enhance the delivery of INSET.

Teachers. This study directly benefited teachers by encouraging reflection on their professional growth and the impact of INSET on their instructional practices. It helped them recognize areas for improvement and identify effective methods that enhanced student engagement and learning. It also empowered teachers to propose relevant training topics and strategies tailored to address classroom challenges.

Trainers and coordinators. The significance of this study lies in its capacity to enhance the effectiveness of INSET (In-Service Training) programs by equipping trainers and coordinators with essential skills, strategies, and insights for delivering impactful professional development sessions. The study identifies best practices, common challenges, and areas for improvement, thereby facilitating the ongoing development of teachers and ensuring that training initiatives align with the changing needs of both teachers and learners. This ultimately enhances teaching quality, improves learning outcomes, and fosters a more responsive and dynamic educational system.

Parents. Parents indirectly benefited from improved teaching practices and better-equipped teachers. As teachers gained confidence and competence through meaningful professional development, students demonstrated improved academic performance and classroom behavior.

Parents also became more aware of the school's commitment to improving instructional quality, reinforcing their role as partners in the learning process.

Learners. Students were the primary beneficiaries of the study. When INSET was implemented effectively, learners experienced more engaging, inclusive, and relevant lessons. Improved teaching methods, enhanced assessments, and more confident teachers contributed to better learner outcomes and a stronger desire to learn.

Future Researchers. The study served as a useful reference for individuals conducting further research on professional development, teacher training, or instructional improvement. It provided data, trends, and analysis that could support or expand research in similar educational contexts.

Stakeholders. Local government units, educational partners, and community stakeholders were able to use the study's findings to guide resource allocation, facilitate teacher training, and sustain school-based professional development initiatives. The results informed decision-making, partnership development, and advocacy for supportive education policies.

THE RESEARCH METHODOLOGY

This section discussed the research methodology employed in the study. It encompassed the methodology used, the study's progression, the research setting, the participants, the research instruments, the data collection procedures, the statistical analysis, the scoring methods, and the operational definitions of terms.

Design

This study employed a quantitative descriptive methodology to investigate the implementation, perceived efficacy, and challenges of school-based In-Service Training (INSET) among teachers in selected public elementary schools. The participants in the study were teachers and school administrators from the North District, Division of Mandaue City. Shields and Rangarajan (2018) asserted that descriptive research is used to delineate the attributes of a population or phenomenon under investigation, without any manipulation of variables. This method was effective for gathering information, opinions, and perceptions that could represent the larger population, as it utilized a survey.

A structured survey questionnaire was used to collect data from participants regarding their demographic profiles, involvement in INSET programs, perceived effectiveness of training, and challenges encountered during implementation. The descriptive design was deemed suitable for this study as it enabled the researcher to generalize findings and discern patterns across schools within the district. The Department of Education in Mandaue City, Cebu, Philippines, oversaw the conduct of this study in selected North District Elementary Schools.

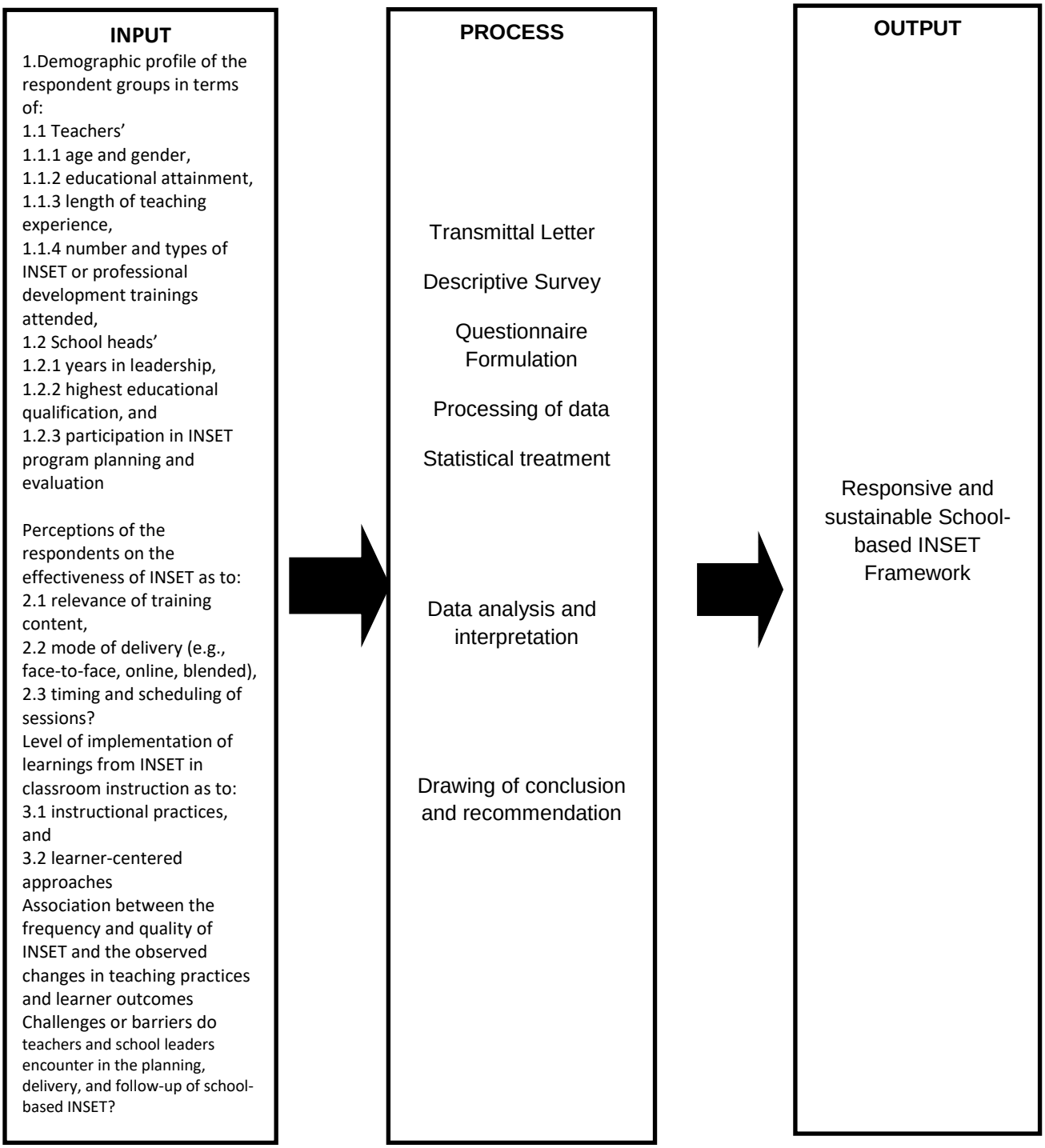
The sample population for this study was selected using simple random sampling to ensure that all potential participants had an equal chance of being chosen. The study involved 60 teachers from diverse levels and subject areas. This method enabled the researcher to gather a comprehensive and varied dataset that captured diverse viewpoints on the existing practices, benefits, and constraints of INSET within the local educational framework.

Flow of the Study

The study systematically began with the identification of the principal research problem: the role of school-based In-Service Training (INSET) in enhancing teacher competence and instructional quality in public elementary schools within the North District of Mandaue City. The research commenced by formulating a theoretical and conceptual framework grounded in current educational structures and Department of Education (DepEd) policies, which highlighted the significance of efficient and contextually relevant INSET practices. Based on this foundation, a structured set of

research questions was developed to guide the investigation, focusing on various aspects of INSET implementation and its perceived impact on teaching and learning.

The initial phase involved profiling the respondents—comprising both teachers and school leaders—by collecting demographic data such as age, gender, educational qualifications, teaching experience, leadership tenure, and previous participation in INSET programs. This step served to describe the composition of the study population. The next phase examined respondents'



Flow of the Study

perceptions of INSET effectiveness, focusing on the relevance of the training content, delivery format (in-person, blended, or online), and session scheduling. Additionally, the study explored how

knowledge acquired from INSET was applied in real classroom teaching, particularly in terms of pedagogical approaches and learner-centered instruction.

Subsequent phases of the research investigated the correlation between the frequency and quality of INSET participation and observable improvements in teaching practices and student outcomes. The study also identified issues and barriers that teachers and administrators faced in planning, implementing, and sustaining INSET activities. The final phase involved consolidating all findings to develop a localized, data-driven, and sustainable school-based INSET framework, designed to address identified gaps, improve instructional practices, and support continuous professional development among district educators.

Questionnaires were distributed to the respondents, and their answers were retrieved, tallied, and tabulated. Statistical treatment was conducted to determine the desired research outcomes. The data were analyzed carefully to draw interpretations, conclusions, and recommendations. The schematic diagram of the study, as shown in Figure 2, supported the understanding of the overall research process.

Environment

The research was conducted at Opao Elementary School, Umapad Elementary School, Paknaan Elementary School, Labogon Elementary School,

UMAPAD ELEMENTARY SCHOOL

Figure 3

Location of the Environment

Basak Elementary School, and Leonard Wood Elementary School in the North District of Mandaue City.

Opao Elementary School. Opao Elementary School was established in 1918 as Opao Primary School, offering grades I and II. It began with a two-room schoolhouse constructed of lightweight materials near the chapel. The 3Rs were the emphasis of instruction. The school is located 1.5 kilometers from the city center. The school site was donated to the Municipality of Mandaue by Don Sergio Osmeña Sr. on January 2, 1929. On January 31, 1932, the donation was accepted by Charles Cline, Division Superintendent of Schools. Principal II heads the school, which has 60 teachers, including 4 Pre-Elem teachers.

Basak Elementary School. Basak Elementary School was established in 1921 that occupies a spacious 11,191.5-square-meter campus, a testament to the efforts of its founders: Mr. Anastacio Perez, Julio and Domingo Alinsug, and Clemente Paran.

The school's first teacher was Hon. Eriberto Dimpas, Mandaue's 6th Municipal Mayor. He reportedly taught a combined Grade 1 and Grade 2 class of 60 learners. As these learners progressed, intermediate grade levels were added, a reflection of the school's growing success. Despite completing only his second year of high school at Cebu Provincial High School, Mayor Dimpas cultivated a reputation for producing exceptionally bright students. Situated in Basak, Mandaue City, Basak Elementary School serves as a very large school and a central school within the North District. Increased enrollment has necessitated a larger teaching staff to accommodate learners from the community and neighboring barangays. Its convenient location near public transportation further solidifies its role as the district's central hub.

Currently, Basak Elementary School boasts a student population exceeding 3,000 learners, offering a comprehensive curriculum that encompasses SPED, from Kindergarten to Grade 6. Over one hundred teaching and non-teaching staff are overseen by a school head and an assisting principal, with a teaching staff of 101 teachers. The school provides a complete basic education program, including Special Education and a science classroom for each grade level. Modern facilities, including a canteen, computer laboratory, library, home economics room, and clinic, support the learning environment. The school's commitment to excellence was recognized with an award as one of Mandaue City's best schools in the 2019-2020 school year.

Basak Elementary School firmly supports the Education For All (EFA) goals, aiming to provide every child with a quality basic education, nurturing each learner's potential, and developing multiple intelligence.

Pakna-an Elementary School. The name Paknaan has military roots, as it is based on oral tradition, which suggests that it was inspired by a weapon used during the Spanish era. The area was plagued by the weapon called. Later, the neighborhood adopted its name from it, first going by Pana-an and then Paknaan. Its 168.72 hectares of land are broken up into 22 zones. As of the 2012 census, the entire population consists of 22,500 people. According to estimates, there are 7,000 families. The largest population in Mandaue City is in Barangay Paknaan, but the village still needs to rise to the top. They were the most populous of the twenty-seven (27) barangays that make up Mandaue City, Paknaan 2015. In 2015, Barangay Paknaan's entire population comprised roughly 7.43% of Mandaue City's population. During Mandaue's 48th Charter Day celebrations, Paknaan was named the best barangay, besting 26 other villages.

Elementary school in Paknaan. Urban public kindergarten and elementary school Paknaan Elementary School is run by the Department of Education in Barangay Paknaan, Mandaue City. Next to Mandaue City Central School, it was regarded as the second-most prestigious Elementary school in the Mandaue Division. It was once thought about.

Umapad Elementary School. Umapad Elementary School, which is in Barangay Umapad in Mandaue City, has a long history with the changes that have taken place in the area. Originally called "Pilapil," which means "marshland," the barangay was renamed "Umapad" in the 1950s when it became large agricultural land. The name comes from the local words umahan (farm) and lapad (vast). Next came improvements to the infrastructure, like digging a canal to help with irrigation and sanitation, which made farming in the area more productive.

As more people moved into the area around the old Mandaue City dumpsite, Umapad became a very crowded public school catchment area. Umapad Elementary is listed in official directories as School ID 120003. It serves more than 1,000 students from kindergarten through sixth grade.

By changing to meet the needs of the community, the school has been very helpful to kids who are on the fringes, many of whom come from families of scavengers. This included setting up online enrollment during the COVID-19 pandemic in 2020 and working with local governments to make sure that schools opened safely and in an orderly way in 2022.

Umapad Elementary is more than just a school; it's a center for community growth. It has hosted literacy outreach through programs like CANVAS's "Story Hours" in 2016, which helped Grade 5 students learn how to solve problems and get involved. International support programs, like feeding programs funded by partners from other countries, also try to help the school's most at-risk students with food security and attendance issues.

In short, Umapad Elementary has grown from a marshland to a busy school at the center of the community. It has become an important institution by adapting its facilities, services, and programs to help its students overcome historical, environmental, and socio-economic problems.

Labogon Elementary School. Labogon Elementary School is an academic public school of a big barrio category in the North District. It started its full operation in 1970 with 5 teachers for 126 pupils. The school is located at Centro, Labogon, Mandaue habal-habal or private vehicles by its well paved concrete road. The school has 2774 sq. meter lot with different school buildings having 30 Classrooms catering 1, 696 pupils. The school has three campuses and has 56 teachers and 4 non-teaching personnel, supervised and managed by a school princlpal, Dr, Asuncion C. Balen. The teachers are classified according to their position: Teacher II, 3 Master Teachers II, 3 Master Teachers I, 20 Teacher III, 3 teacher II and 29 Teacher 1.

Labogon Elementary School takes pride in many awards and achievements. First place winner of the Regional Kindergarten Teacher Demonstrator, Gold medal in Gymnastics during the CVRAA 2019. Third place in Brigada Eskwela Implementation. 2018 and recognition for various academic competitions, to name a few. In terms of external linkages, the school became the training hub of Jollibee Feeding Program in the Visayas Region, having been chosen as the recipient of Jollibee's modern kitchen facility with equipment.

Leonard Wood Elementary School. Leonard Wood Elementary School was built during the American period in the 1920's. It was then that Governor General Leonard Wood, a physician, built a health facility, which was funded by Eversley Childs, a benevolent industrialist from New York City. The Eversley Child Sanitarium and Hospital was named in his honor, and the school was named after the Governor General Leonard Wood.

Hansenites in the Philippines during that time was rampant and unabated. The patients were ostracized and neglected by their families. The Americans gave an example of a true and real service to treat the patients. They established a well planned community of lepers, health workers, doctors, and nurses in well arranged cottages and houses. They also built churches and schools.

Formerly, Leonard Wood Elementary School only enrolled hansenite patients and the children of people affected with leprosy and people afflicted by it. It was in the 1960's that the school became

part of the Department of Education and was allocated with textbooks, additional classrooms, desks, armchairs, and teachers.

The school is considered a disadvantaged school since it is a school for Hansenite patients, former patients, and their children. Thanks to the benevolent heart of the Rotarians who had always helped LWES through thick and thin, providing feeding program form below normal pupils, providing school supplies and materials for impoverished families since most head of the families or mothers can no longer be employed due to the stigma of the disease. The Rotarians, Coalition for Better Education (CBE), Jollibee Foundation Inc., and the VIsayan Electric Company (VECO) had shown their willingness to join and support the teachers and parents as partners in nation building and as active stakeholders of education as one country and people of the Republic of the Philippines.

Respondents

The teachers at the identified schools were the respondents in this study. They answered the questionnaires provided by the researcher. Table 1 presented a summary of the distribution of respondents in the study.

Since the target participants of the study were teachers, they were purposively sampled. The selection of participants was based on purposive homogeneous sampling. As described by Creswell (2013), "in homogeneous

Table 1 Distribution of Respondents

Respondents	Population (n)	Percentage (%)
OPAO ES	15	16.67
UMAPAD ES	15	16.67
PAKNA-AN ES	15	16.67
LABOGON ES	15	16.67
BASAK ES	15	16.67
LEONARD WOOD ES	15	16.67
TOTAL	**90**	**100.00**

Sampling the researcher purposefully samples individuals or sites based on membership in a subgroup that has defining characteristics." Thus, the participants in the study consisted of 84 teachers and 6 school heads.

Instrument

The primary tool for collecting data in this study was a structured questionnaire, which was created by adapting and validating existing expert-designed instruments focusing on school-based INSET. The questionnaire was divided into four sections, each addressing a key aspect of teachers' and school heads' experiences with INSET.

Part I: Profile of the Respondent. This section collected demographic information from the participants. For teachers, it recorded their age, gender, educational attainment, years of teaching experience, and the number and types of INSET or professional development sessions they had attended. For school heads, it gathered information on their length of service in administrative roles, highest educational attainment, and level of involvement in INSET planning and evaluation. These items were based on the demographic profiling methods used in Casinillo, Mantilla, and Hungo's (2024) validated INSET management questionnaire.

Part II: Perceptions of INSET Effectiveness. This section used a 4-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree) to measure respondents' perceptions of the relevance of INSET content, delivery modes (face-to-face, blended, online), timing and scheduling,

and the program's effectiveness in meeting teacher needs. The scale was based on indicators from Casinillo et al. (2024) and qualitative items from Exploring In-Service Training Programs (2024). This part captured insights into how well INSET designs addressed the practical and contextual needs of educators.

Part III: Implementation of INSET in Teaching. This part assessed how participants applied the strategies learned from INSET in their classrooms, using items adapted from existing evaluation tools such as those by Casinillo et al. (2024). It included statements on pedagogical techniques and learner-centered instruction, rated using a scale of 1 to 4 (1 = Never, 2 = Seldom, 3 = Sometimes, 4 = Always). These items reflected implementation practices and outcomes at the classroom level.

Part IV: Challenges and Recommendations. This section included open-ended and multiple-choice questions developed using frameworks from Exploring In-Service Training Programs (2024). It aimed to identify perceived challenges in INSET implementation, such as limited facilitator capacity, inadequate venues, or lack of materials, and to gather suggestions for improving future training programs.

Pilot Testing and Validation

To ensure clarity and reliability, the questionnaire was pilot-tested with a small group of teachers and school leaders in the Division who had recently participated in INSET. The reliability analysis yielded a Cronbach's alpha coefficient exceeding 0.80 for Sections II and III, indicating strong internal consistency. The validity of the instrument was supported by alignment with peer-reviewed INSET studies such as Casinillo et al. (2024) and Exploring INSET Programs (2024).

Data Gathering Procedure

To collect relevant and accurate data, the researcher first sought formal approval from the Schools Division Superintendent of Mandaue City and the principals of the identified public elementary schools in the North District. After securing permission, the researcher collaborated with designated school INSET coordinators to identify eligible respondents, including teachers and school heads who had participated in INSET during the current or previous academic year.

Prior to administering the instrument, all participants were informed about the study and asked to give their informed consent, ensuring voluntary participation and the protection of their privacy. The structured questionnaire was then administered either in printed form or via a secure online platform such as Google Forms, depending on the accessibility and preference of each school. The researcher ensured that participants understood the instructions to minimize confusion. Respondents were given three to five working days to complete the questionnaire, and follow-up reminders were issued to maintain a high response rate. In-person surveys were used in schools with limited internet access.

Once collected, the responses were reviewed and coded. The researcher organized the data by grouping responses based on the variables indicated in the study's statement of the problem: demographic profile, perceptions of INSET effectiveness, implementation in teaching, and identified challenges. Throughout the data gathering process, accuracy and honesty in responses were ensured. This step was essential in preparing the data for analysis and interpretation, ultimately contributing to the development of a localized and responsive INSET framework.

Statistical Treatment of Data

The collected data were organized and analyzed using both descriptive and inferential statistical tools. Frequency counts and percentages were used to summarize respondents' demographic profiles, such as age, gender, educational attainment, years of service, and number of INSET

sessions attended. These measures provided a clear overview of the participants' background characteristics.

To evaluate respondents' perceptions of INSET effectiveness and its classroom implementation, the study used mean scores and standard deviations. The mean values indicated the central tendencies of responses regarding training relevance, delivery formats, and scheduling, while the standard deviations revealed the consistency of opinions across the sample. A 4-point Likert scale was used to quantify responses, with each range corresponding to a specific interpretation.

To assess relationships between INSET frequency, quality, and improvements in teaching practices or student performance, the Pearson Product-Moment Correlation Coefficient was applied. This tool measured the strength and direction of the correlation between INSET participation and observed outcomes. Meanwhile, qualitative responses from open-ended questions were analyzed through thematic coding, which allowed the researcher to identify recurring issues and formulate insights for improving INSET program design.

Scoring Procedure

The questionnaire items were scored using a 4-point Likert scale to assess respondents' views on the effectiveness and implementation of school-based INSET. Each response was assigned a specific range, numerical weight, category, and corresponding verbal interpretation, as summarized in the scoring guide below (Table to follow, if required).

Weight	Range	Category	Verbal Description
4	3.26- 4.00	Strongly Agree	The INSET program is highly relevant, consistently applied, and significantly enhances teaching practices.
3	2.51- 3.25	Agree	The INSET program is generally relevant and is often applied to improve instructional practices.
2	1.75- 2.50	Disagree	The INSET program is somewhat relevant but rarely applied or observed in actual teaching.
1	1. 1.75	Strongly Disagree	The INSET program is not relevant and has little to no application or impact on teaching practices.

DEFINITION OF TERMS

The following terms were defined operationally as they were used in this study to ensure clarity and consistency in interpretation:

Challenges or Barriers in INSET – Referred to the obstacles encountered by teachers and school leaders during the planning, implementation, and follow-up stages of INSET. These included lack of resources, limited facilitator expertise, poor scheduling, and insufficient institutional support.

Demographic Profile of the Respondent Groups – Referred to the basic background information of teachers and school heads, including age, gender, educational attainment, years of teaching or leadership experience, and the number and types of INSET or professional development programs attended. This information was used to contextualize responses and identify trends among subgroups.

Effectiveness of INSET (In-Service Training). It refers to how well the training enhances teachers' professional competencies, improves instructional practices, and positively impacts student learning outcomes. Effective INSET is characterized by relevant content aligned with teachers' needs, interactive and practical strategies, strong support mechanisms, and measurable outcomes. It fosters continuous professional growth, boosts teacher confidence, and promotes a culture of reflective practice and collaboration. Ultimately, effective INSET leads to improved

classroom performance and helps ensure that teaching remains responsive to curriculum demands and learners' diverse needs.

Mode of Delivery – Referred to the manner in which the INSET sessions were conducted. This included face-to-face, online, or blended learning formats. The study examined how these modes affected accessibility, engagement, and the effectiveness of the training.

Relevance of Training Content – Referred to how appropriate and aligned the INSET topics and activities were to the current instructional needs, teaching challenges, and curriculum requirements of the teachers. It measured how meaningful and applicable the content was to everyday classroom realities.

Timing and Scheduling of Sessions – Referred to the frequency and timing of INSET implementation, including whether sessions were held during breaks, weekends, after class hours, or embedded in the school calendar. It also considered how the timing affected teacher availability and willingness to participate.

Level of Implementation of Learnings from INSET in Classroom Instruction – Referred to the extent to which the strategies, knowledge, and tools acquired during INSET were applied by teachers in their teaching practices. This included changes in lesson planning, instruction, classroom management, and assessment.

Instructional Practices – Referred to the specific teaching methods and techniques used by educators, including the use of active learning, differentiation, integration of ICT, and assessment strategies. The study investigated whether INSET had enhanced or modified these practices.

Learner-Centered Approaches – Referred to teaching strategies that focused on the needs, interests, and learning styles of students. These approaches promoted engagement, autonomy, collaboration, and inclusivity. The study measured how INSET influenced the adoption of these practices.

Participation in INSET Program Planning and Evaluation – Referred to the involvement of school heads and selected teachers in designing, organizing, implementing, and assessing the outcomes of school-based INSET activities. It indicated the level of ownership and collaborative input in shaping the training program.

School-Based INSET Framework – Referred to the proposed model or structure for planning and implementing in-service training within the school setting, based on the findings of the study. It outlined strategies for sustainability, relevance, collaboration, and impact on teaching and learning.

Chapter 2

REVIEW OF RELATED LITERATURE AND STUDIES

The growing focus on teacher quality as a significant factor in student success has made professional development programs, especially In-Service Training (INSET), a top priority in efforts to improve education. School-based INSET is now widely accepted as an effective way to enhance teacher skills, update teaching methods, and ensure that classroom practices align with the most recent curriculum standards. It seeks to enhance teachers' capabilities through ongoing, contextually relevant learning experiences that directly tackle pedagogical challenges within the local school setting.

As the field of education has evolved, particularly following the disruptions of the COVID-19 pandemic, it has become evident that gaps exist in teaching, technology, and content delivery skills. Consequently, well-structured INSET programs are indispensable for providing educators with the requisite knowledge and skills to adapt to evolving instructional methodologies, including blended

and technology-enhanced learning. Effective INSET makes lessons more effective, gives teachers greater confidence, and helps students achieve better results.

Many studies, both in the US and worldwide, have examined the effects, usefulness, and implementation of INSET programs. This chapter provides an overview of pertinent literature and research concerning school-based INSET, emphasizing its significance in professional development, the factors influencing its efficacy, the challenges perceived, and the suggested frameworks that facilitate its sustainability and relevance in enhancing instructional quality in basic education.

Related Literature

In-service training (INSET) has become a key component of educational reform, particularly in enhancing teacher skills and improving the quality of instruction in rapidly changing classrooms. Aquino and Bautista (2023) investigated the implementation of lesson study in a district in Quirino, Philippines. They found that collaborative planning, observation, and reflection during in-service training (INSET) significantly improved teachers' instructional strategies, particularly in aligning lessons with curriculum standards. Similarly, Pagbilao et al. (2023) discussed how establishing a Community of Practice (CoP) centered on lesson study in Saguday strengthened professional conversations, peer learning, and a culture of shared responsibility among teachers. These results endorse the incorporation of peer-driven models into school-based INSET frameworks.

Zhao et al. (2023) conducted a meta-analysis involving more than 1,400 STEM teachers from around the world. They found that structured, content-specific professional development had a significant impact on teachers' confidence in their abilities. This understanding strengthens the necessity for subject-specific and contextually relevant INSET to enhance educators' confidence and proficiency. Talafian et al. (2023) examined responsive, professional development within a physics teaching community. They discovered that teacher-driven professional development models, when aligned with immediate instructional requirements, were more effective in promoting sustainable practices than top-down workshops. These studies validate that adaptability and responsiveness are essential elements of effective INSET.

Another significant contribution is the research conducted by El-Hamamsy et al. (2023), which assessed a modified cascade model for implementing digital education reforms in primary schools. They discovered that when expert teachers mentored their colleagues, the cascade model was as effective as centralized training and could be delivered on a larger scale. In the Philippines, Sinsay-Villanueva et al. (2025) from the Philippine Institute for Development Studies (PIDS) emphasized the necessity for a cohesive and ongoing teacher development strategy, highlighting that numerous in-service trainings are still disjointed and do not meet teachers' actual needs. This highlights the need for enhanced, integrative, policy-aligned INSET frameworks.

Reños and Pontillas (2023) conducted a study in Bukidnon that correlated classroom observations with heightened teacher participation in professional development. They determined that utilizing classroom data to inform INSET enhances the relevance and applicability of training. At the same time, Olvido et al. (2024) emphasized the need to bridge the gap between pre-service training and in-service development, arguing that high-quality INSET should build upon the fundamental teaching skills acquired during teacher education. This continuity guarantees ongoing advancement throughout the teacher lifecycle.

Brown et al. (2024) investigated in-service learning experiences among non-Western educators. They discovered that professional development was more pronounced when teachers participated in blended professional development models that integrated formal training with informal mentoring and peer reflection. A 2025 systematic review in Frontiers in Education found that job-embedded,

collaborative, and long-term professional development programs led to better integration of digital teaching methods than one-time, lecture-style workshops.

These studies collectively emphasize the importance of localized, teacher-centered, and sustained professional development programs. They offer empirical validation for the development of school-based INSET frameworks that are collaborative, needs-driven, and consistent with national educational objectives and international teaching standards.

Tzotzou, Poulou, Karalis, and Ifanti (2024) conducted a quantitative analysis involving 290 primary school teachers in Greece to investigate the role of reflection in in-service training programs. The results indicated that although the majority of INSET activities focused on skill enhancement, only a limited number consistently promoted reflective thinking. This lack of reflection made it harder for students to learn more deeply and made teachers less happy. Their research underscored the necessity for INSET programs to incorporate structured reflection to foster enduring instructional enhancement and critical thinking among teachers.

Zhao et al. (2023) conducted a meta-analysis examining the influence of professional development on more than 1,400 in-service STEM educators. The study revealed a statistically significant enhancement in teacher self-efficacy (effect size $g = 0.64$), demonstrating that focused, well-organized training programs effectively bolster teachers' confidence and pedagogical skills. This study emphasizes the significance of subject-specific INSET that is research-based and ongoing, especially in the domains of science and mathematics education, where instructional rigor is essential.

A 2024 study in Guiyang, China, examined the effectiveness of Professional Learning Communities (PLCs) in school-based In-Service Teacher Education (INSET). The research indicated that educators participating in consistent Professional Learning Community (PLC) activities—including collaborative lesson planning, peer coaching, and action research—reported considerable enhancements in instructional methodologies and student engagement. The findings suggest that promoting community-based professional development can enhance teacher autonomy, motivation, and instructional effectiveness.

Under China's National Teacher Training Project, Ding, Wang, and Kong (2023) looked at both local and centralized professional development programs. Their research indicated that school-based INSET, rooted in local educational contexts, resulted in enhanced teacher preparedness, improved classroom management skills, and increased student achievement compared to remote, non-local training. This highlights the importance of localized INSET models that consider the specific challenges and realities of teachers' work environments.

Guskey (2022) asserts that effective professional development, such as INSET, must be continuous, data-informed, and centered on enhancing student learning. He asserted that training programs addressing teacher needs, providing ongoing support, and evaluating their impact on classroom practice are more likely to be effective. His model for assessing professional development encompasses five essential levels, beginning with participants' reactions and culminating in student outcomes, providing a thorough framework for evaluating the efficacy of INSET programs.

Desimone (2021) identified five essential characteristics of effective professional development: content focus, active learning, coherence, duration, and collective participation. These attributes are frequently integrated into effective INSET programs. Desimone observed that teachers who engage in well-organized, collaborative, and content-intensive INSET sessions experience substantial enhancement in their instructional skills and knowledge, which directly contributes to student achievement.

Villegas-Reimers (2023) contended that INSET should be integrated into a comprehensive framework of ongoing professional development, rather than being conducted as standalone workshops. She emphasized the importance of teacher training being contextually grounded and introspective, enabling educators to integrate new knowledge with their everyday classroom experiences. This underscores the significance of school-based INSET that enables teachers to collaborate and tailor their instruction to the distinct needs of their students.

A study conducted in the Philippines by Manila and Bontuyan (2021) revealed that School-Based INSET programs substantially enhanced the professional development of public school educators. The research emphasized that aligning INSET with teachers' self-assessment outcomes and school improvement strategies enhances its relevance and efficacy. Educators in the study reported enhanced motivation, refined instructional strategies, and increased learner engagement as a result of these contextualized training programs.

The OECD (2019) indicated in its Teaching and Learning International Survey (TALIS) that professional development is beneficial when it is focused, continuous, and relevant to teachers' practices. The survey revealed that educators who participated in organized INSET programs with subsequent activities exhibited greater confidence in presenting intricate material and employing innovative pedagogical techniques. The report substantiates that the efficacy of INSET is enhanced when connected to real instructional challenges and when schools establish a culture of continuous improvement.

Lastly, a systematic review in Frontiers in Education from 2024 put together results from recent studies on blended in-service professional learning. The review found that training programs that combined formal workshops, peer mentoring, and on-the-job coaching were more effective than programs that used only one of these methods. These comprehensive professional development strategies led to lasting changes in instructional practices and improved student performance. It recommends that policy and school implementation plans prioritize blended, collaborative, and job-embedded INSET practices.

These further investigations enhanced the evidence supporting school-based INSET as a significant catalyst for professional development. They all agree that good INSET must be reflective, context-based, collaborative, and adaptable to changing teacher needs. When planned and executed carefully, this type of training not only helps teachers grow but also enhances student learning.

Related Studies

Aquino and Bautista (2023) investigated the implementation of lesson study in public schools in Quirino, Philippines, discovering that collaborative, school-based professional development markedly enhanced teachers' lesson planning, questioning methodologies, and reflective practices. The research validated that ongoing peer collaboration facilitates the development of context-specific pedagogical strategies, underscoring the efficacy of school-based INSET in enhancing instructional effectiveness across various disciplines.

Pagbilao et al. (2023) investigated a school district in Saguday, Philippines, that incorporated a Community of Practice (CoP) framework into INSET activities. Their findings indicated that CoPs enhanced collaboration among educators and facilitated ongoing professional reflection, resulting in increased teaching confidence and more adaptive instructional methods. This illustrates the importance of peer networks in supporting professionals' growth in a dynamic and ongoing manner.

Zhao et al. (2023) performed a meta-analysis of professional development programs for in-service STEM educators. The study, which included data from more than 1,400 teachers, found that targeted professional development had a significant impact on teachers' self-efficacy (effect size g = 0.64). The results highlight the significance of subject-specific and meticulously structured INSET

in bolstering teacher confidence and pedagogical proficiency, particularly in specialized domains such as science and mathematics.

Talafian et al. (2023) examined a responsive professional development initiative within a physics teaching community of practice. The study demonstrated that aligning INSET with teachers' specific classroom requirements and facilitating continuous peer interaction significantly enhances professional development. This supports the idea that INSETs' work must be focused on teachers, collaborative, and based on real classroom situations.

El-Hamamsy et al. (2023) examined a modified cascade model for implementing digital education training in primary schools. Results indicated that educators trained by master teachers who had previously engaged in professional development attained outcomes comparable to those trained directly by experts. This demonstrates that cascade models, in which training is passed from core to larger teaching groups, can be a cost-effective and scalable approach to providing INSET in large school systems.

Tzotzou, Poulou, Karalis, and Ifanti (2024) executed a quantitative study with 290 teachers in Greece, concentrating on reflective practices in INSET. The results indicated that although technical training was frequently prioritized, structured reflection was deficient, thereby constraining long-term efficacy. Their results indicate that guided reflection activities should be incorporated into every INSET session to help teachers think critically and become more self-aware.

A 2024 study from Guiyang, China, found that teachers participating in Professional Learning Communities (PLCs) during INSET sessions experienced significant improvements in their teaching practices and student engagement. The PLC method enables teachers to collaborate and share ideas, plan lessons, and address teaching challenges together. These findings confirm the incorporation of PLCs in INSET as a method to facilitate collective capacity building.

Ding, Wang, and Kong (2023) examined the efficacy of local (school-based) versus central (off-site) teacher training programs within the framework of China's National Teacher Training Project. The research indicated that local professional development had a significant influence on teacher readiness, classroom efficacy, and student achievement. This confirms the significance and contextual adaptability of school-based INSET models, particularly in heterogeneous learning settings.

A systematic review in Frontiers in Education (2024) analyzed blended professional development models and determined that the most effective INSET programs incorporated a combination of formal instruction, coaching, and peer mentoring. Teachers who participated in these blended models exhibited more consistent enhancements in their instructional practices compared to those who attended single workshops. This demonstrates the importance of combining different types of learning for optimal INSET impact.

Wang (2024) investigated professional development for in-service computer science educators and found that synchronous online learning, combined with interactive mentoring and reflective journaling, significantly enhanced teacher satisfaction and proficiency. The study highlights that INSET programs, which incorporate both content mastery and pedagogical support, facilitate the integration of theory and practice.

Reños and Pontillas (2023) examined classroom observations and their correlation with professional development activities among educators in Bukidnon, Philippines. Their results showed a strong link between regular feedback based on observations and an increase in the number of teachers participating in INSET. The research advocates for the integration of performance-based assessments into INSET programs to facilitate more focused and pertinent teacher development.

Olvido, Dayagbil, Alda, and Uytico (2024) examined the quality of graduates from teacher education institutions in the Philippines, highlighting the necessity for INSET to rectify deficiencies in pedagogy and classroom management among post-graduates. Their results indicate that school-based INSET ought to serve as a conduit between pre-service training and the exigencies of actual teaching.

Brown, Halvorsen, and Kyureghyan (2024) investigated in-service learning experiences across various educational environments and found that teachers derived the most significant advantages from INSET, which facilitated informal peer mentoring, collaborative planning, and practical application. Their research indicates that inflexible training frameworks may be inferior to adaptable, teacher-led models that foster autonomy and flexibility.

Sinsay-Villanueva et al. (2025), in a national policy study conducted by the Philippine Institute for Development Studies (PIDS), found that Philippine INSET programs remain fragmented and misaligned with the needs of teachers. The study suggested that professional development (PD) programs should be more organized, tailored to individual needs, and led by schools. These programs should empower teachers to set their training priorities and collaborate to find solutions. This makes the case for decentralized INSET frameworks even stronger.

A study conducted by Llego (2023) in the Philippines investigated the effects of School-Based INSET on elementary teachers in Region IV-A. The results indicated that educators who engaged in regular INSET programs exhibited enhanced content mastery, improved classroom management abilities, and increased utilization of instructional resources. The study determined that localized and needs-based INSET sessions substantially enhanced teacher competence and student performance, particularly in essential subjects such as English and Mathematics.

Bautista and Ocampo (2021) did a study in Quezon City public schools to look at how division-initiated INSET was used. Their research showed that training activities that were directly related to curriculum standards and classroom challenges led to better ways of teaching and more interested students. Experience-based workshops and group activities were appreciated by teachers as they helped them adapt their lessons to meet the needs of a wide range of students.

In Pakistan, Ahmed (2020) did a study that looked at how well INSET affected student achievement and teacher performance. The study used learner performance metrics along with observations made before and after training. The results showed that teachers who took part in structured INSET were more confident, used more learner-centered methods, and ran their classrooms more efficiently. Students whose teachers had been trained did better on tests than those whose teachers had not been trained.

Dela Cruz (2020) examined the impact of INSET on enhancing the performance of science educators in the Division of Nueva Ecija. The research indicated that educators who engaged in INSET demonstrated superior lesson planning, the incorporation of ICT tools, and the application of differentiated instruction. These enhancements resulted in significantly higher mean percentage scores in National Achievement Test (NAT) outcomes, underscoring the direct impact of professional development on student performance.

Ncube, Tshuma, and Maphosa (2022) conducted a study in Zimbabwe assessing primary school teachers' perceptions of INSET. The results indicated that continuous professional development elevated teacher morale, stimulated innovation, and led to enhanced learner-centered practices. The study emphasized that INSET programs should be systematic, inclusive, and customized to meet teachers' needs for optimal effectiveness, noting that irregular or generic training produced negligible results.

Recent studies demonstrate that INSET programs are adapting to more effectively cater to teachers' needs and enhance their professional development, specifically by focusing on actual classroom requirements and prioritizing 21st-century competencies. Tzotzou et al. (2023) examined the application of reflection in INSET. It was discovered that, despite the acknowledged advantages of reflective practices for teacher development, they are seldom utilized in training sessions. The authors propose that structured reflection be integrated into INSET designs to enhance profound learning among professionals.

Wang (2024) examined the attitudes of in-service teachers in China towards the use of technology in EFL classrooms. He found that teachers value technology, but the training does not always include practical application and support. This means that INSET programs need to do more than teach theory; they also need to develop practical strategies and consider the specific situation. Similarly, Onalan and Gursoy (2020) found that many Turkish teachers believe INSET is boring and does not connect to their classroom practices. They suggest customizing INSET to meet the needs and problems of teachers in their areas.

MDPI's (2024) systematic review indicated that diverse forms of INSET, such as professional learning communities, lesson study, and action research, can augment teachers' job performance and refine their lessons. The evaluation suggests that sustained, collaborative professional development is superior to singular workshops. El-Hamamsy et al. (2023) proposed a "adapted cascade model" for the expansion of INSET, emphasizing digital education. This model allows trained teacher-leaders to maintain access to expert guidance, thereby ensuring the sustainability and expansion of training initiatives, especially in resource-limited environments.

Ultimately, a 2024 assessment of INSET in Mandaue City revealed that, despite the frequent occurrence of INSET activities, they did not correspond with teachers' strengths, exhibited inadequate digital integration, and lacked subsequent follow-up. These issues resulted in negligible enhancement in pedagogy. The research highlighted the necessity for INSET models customized to the requirements of local educators and incorporating ICT.

Chapter 3

PRESENTATION, DATA ANALYSIS AND INTERPRETATION

This chapter presented the analysis and interpretation of the data gathered to answer the research questions posed in the study. It was organized into five (5) major parts. Each part addressed a specific component of the research problem concerning the implementation, effectiveness, and challenges of school-based In-Service Training (INSET) among public elementary school teachers and school heads in the North District, Division of Mandaue City.

The first part presented the demographic profile of the respondents. It included relevant information on both teachers and school heads, such as age, gender, educational attainment, length of teaching or leadership experience, the number and types of INSET or professional development programs attended, and participation in INSET planning and evaluation.

The second part dealt with the respondents' level of implementation of learnings from INSET in classroom instruction. This included how teachers and school heads applied INSET-acquired knowledge in their instructional practices and learner-centered approaches.

The third part addressed the perceptions of the respondents on the effectiveness of INSET. It examined their views on the relevance of training content, mode of delivery (e.g., face-to-face, online, blended), and the timing and scheduling of training sessions.

The fourth part presented the analysis of the relationship between the frequency and quality of INSET participation and the observed changes in teaching practices and learner outcomes. It

utilized statistical tools to determine the association between INSET-related variables and improvements in educational performance.

The fifth part highlighted the challenges or barriers encountered by teachers and school heads in the planning, delivery, and follow-up stages of school-based INSET, along with their recommendations for improving the design and implementation of training programs.

RELATED INFORMATION OF THE RESPONDENT GROUPS

The first part manages the relevant information about the school heads and teachers, including their age and gender, civil status, highest educational attainment, years of service, relevant training, and performance rating.

Age

One important demographic characteristic of the school heads and teachers is age. Age determines the maturity and experiences of these respondents throughout their exposures. Table 2 shows the age profile of the respondents.

The age profile data reveals that a substantial percentage of school heads (50%) fall within the 46–50 age range, with 33.33% in the 41–45 age group. This suggests that leadership positions within the educational system are

Table 2 Age Profile

Age	School Heads		Teachers		Total	Percentage
56-60	1	16.67	4	4.7619	**5**	5.56
51-55		0	9	10.714	**9**	10.00
46-50	3	50	27	29.762	**30**	33.33
41-45	2	33.33	18	21.429	**20**	22.22
36-40		0	15	17.857	**15**	16.67
31-35		0	6	7.1429	**6**	6.67
26-30		0	5	5.9524	**5**	5.56
Total	**6**	**100**	**84**	**100**	**90**	**100**
SD					**9.2**	
Average					**40.79**	

Predominantly held by mid-career professionals who have presumably accumulated considerable experience and institutional knowledge. Ortega and

Rosales (2021) assert that mid-career leadership achieves a synthesis of innovation and stability, as these individuals possess the maturity necessary for effective leadership while remaining adaptable to change. This age distribution may enhance school governance, strategic planning, and mentorship.

The lack of school leaders under 41 years old suggests a potential leadership deficit among younger demographics. The absence of emerging leaders in their early to mid-thirties suggests inadequate succession planning and a need for leadership development initiatives targeting younger educators. Santos and Llamas (2023) emphasize the importance of developing early leadership potential in young educators to ensure sustained institutional leadership. In the absence of intentional initiatives to cultivate future school leaders, there exists a peril of stagnation in educational innovation and administration.

The predominant age group among teachers is 46–50 years, comprising 29.76%, followed by 41–45 years at 21.43%, and 36–40 years at 17.86%. This distribution indicates that most teachers are in their prime professional years, benefiting the educational system. Educators in this demographic

often demonstrate effective classroom management, pedagogical expertise, and curricular proficiency. Reyes and Dela Cruz (2022) assert that mid-career educators generally exhibit greater confidence in employing differentiated instruction and incorporating technology in the classroom, which positively influences student outcomes.

The diminished representation of educators in the younger age cohorts—remarkably those aged 26–30 (5.95%) and 31–35 (7.14%)—may suggest difficulties in attracting and retaining novice teaching professionals. This trend may indicate underlying problems such as job dissatisfaction, inadequate incentives, or insufficient mentorship programs for novice educators. Bautista and Manuel (2024) argue that enhancing teacher induction programs and providing ongoing professional support are crucial strategies for attracting and retaining younger educators, thereby ensuring a sustainable teaching workforce.

The mean age of personnel in both groups is 40.79 years, with a standard deviation of 9.2, suggesting a considerable age diversity among the staff. The data indicates a robust presence of seasoned educators, yet it also reveals an aging workforce, especially in leadership positions. This affects long-term planning, particularly considering the possibility of retirement within the next decade. According to Gonzales and Perez (2023), educational institutions must actively formulate succession strategies and invest in leadership training for younger faculty to address generational disparities and ensure organizational continuity.

Moreover, the demographic composition indicates a professional setting predominantly comprised of experienced educators capable of mentoring novice staff, thereby enriching collaborative professional learning communities. The underrepresentation of younger staff may impede innovation and restrict exposure to contemporary teaching methodologies. Villanueva (2020) emphasizes that a balanced age distribution cultivates a more dynamic educational environment, where experiential wisdom intersects with youthful creativity. Rectifying this disparity should be a strategic imperative for educational leaders and policymakers.

Gender

Another crucial demographic characteristic is gender. Gender determines the sexes of the respondents, whether they are males or females. Table 3 shows the gender profile of the respondents.

Table 3 Gender Profile

indicators	School Heads		Teachers		Total	Percentage
Female	5	83.33	78	92.857	83	92.222
Male	1	16.67	6	7.1429	7	7.7778
Total	**6**	**100**	**84**	**100**	**90**	**100.00**

The gender composition of school leaders indicates a predominant presence of females, accounting for 83.33% of the cohort, whereas males constitute merely 16.67%. This notable female majority indicates an increasing trend of women assuming leadership positions in basic education, particularly in elementary and secondary school administration. Dela Cruz and Santos (2021) assert that the rising prevalence of female leaders in educational institutions underscores a progressive transition towards gender inclusivity and the acknowledgment of women's competencies in leadership roles. Their presence in decision-making roles has a positive impact on the development of school environments and promotes inclusive policies.

Although women predominantly occupy school leadership positions, the scarcity of male school heads may hinder the achievement of gender balance and diversity in leadership viewpoints. Although male leadership is less common, it still makes significant contributions in terms of

leadership style, problem-solving methodologies, and representation. Rivera and Gomez (2022) argue that diversity in school leadership enhances institutional effectiveness by incorporating diverse perspectives, ultimately benefiting both staff and students. Consequently, educational institutions should incorporate gender diversity initiatives into their leadership development programs.

Females constitute the predominant 92.86% of the teaching population, while males represent the minority of 7.14%. This corresponds with the longstanding trend that the teaching profession, particularly at the primary education level, is predominantly female. Lim and Navarro (2023) assert that cultural and societal norms in the Philippines often associate teaching with nurturing roles, which are traditionally more appealing to women. The predominant female presence enhances student care and emotional support but may unintentionally result in a deficiency of gender diversity among classroom role models.

The limited number of male educators has significant implications, particularly in fostering gender-sensitive education. Male educators play a crucial role in providing balanced mentorship, particularly for male students who may lack positive male role models in early education. Torres and Villanueva (2020) highlighted that a gender-diverse teaching workforce can enhance student identity development and classroom dynamics. Consequently, education departments should advocate for the teaching profession among men to achieve a more balanced gender representation in schools.

The overall gender distribution indicates that of 90 personnel, 92.22% are female and 7.78% are male. This distorted distribution indicates a significant gender disparity in the education sector, which, although prevalent worldwide in primary education, prompts apprehensions regarding diversity and inclusivity. Medina and Cruz (2023) argue that gender balance in educational staffing promotes a more inclusive learning environment, reflecting societal diversity and contributing to the dismantling of stereotypes among students. This imbalance may also influence staff dynamics and restrict students' exposure to diverse gender perspectives in education.

The data underscores the necessity for strategic initiatives to promote male involvement in the teaching profession and educational leadership. Initiatives such as specialized scholarships, public awareness campaigns, and recruitment programs can help mitigate this disparity. Flores and Castillo (2021) argue that achieving gender equity in educational staffing fosters a more inclusive school culture and prepares students for a more equitable and respectful society. A diverse workforce ultimately results in more responsive and comprehensive educational outcomes.

Highest Educational Attainment

Another essential variable to consider is the highest educational attainment. This determines the level of attainment among school leaders and teachers. Table 4 shows the respondents' highest educational attainment.

Table 4 Highest Educational Attainment

	School Heads		Teachers		Total	Percentage
Doctorate Degree	2.00	33.33	2.00	2.38	**4**	4.44
w/ units in Doctorate Degree	2.00	33.33	6.00	7.14	**8**	8.89
w/ Master's Degree	2.00	33.33	7.00	8.33	**9**	10.00
w/ units in Master's Degree	0	0	48.00	57.14	**48**	53.33
BSEd/ BEEd	0	0	21.00	25.00	**21**	23.33
Total	**6**	**100**	**84**	**100**	**90**	**100**

The educational attainment data indicate that all school leaders have engaged in postgraduate studies, with 33.33% possessing doctorate degrees, another 33.33% having completed coursework in a doctorate program, and the remaining 33.33% holding master's degrees. This suggests that the district's school leadership is well-educated, a characteristic frequently associated with enhanced instructional leadership, strategic planning, and evidence-based decision-making. Alonzo and Ramirez (2022) assert that school leaders with advanced degrees exhibit superior abilities in innovation, oversight, and instructional enhancement, thereby positively influencing school performance and teacher development.

The elevated academic qualifications of school leaders demonstrate a strong commitment to lifelong learning and professional development. Leaders possessing advanced degrees are more likely to enact research-based policies, cultivate a culture of academic excellence, and serve as role models for their teaching personnel. According to Ferrer and Santos (2021), educational leaders possessing postgraduate qualifications are more adept at navigating the intricacies of 21st-century school administration, encompassing curriculum reform and the incorporation of digital technologies.

The data indicate that 57.14% of teachers are enrolled in a master's degree program, while only 8.33% have completed one. This suggests that many educators are enhancing their qualifications, demonstrating a positive attitude towards professional development. Nonetheless, the statistic indicating that only 10% have successfully obtained a master's degree and that only 7.14% have commenced doctoral studies underscores the potential for improvement in the quest for advanced academic qualifications. Castillo and Lim (2023) assert that educators possessing postgraduate qualifications exhibit greater confidence in curriculum design, learner assessment, and educational research, competencies vital for adapting to changing educational standards.

Currently, 25% of educators possess solely a Bachelor's degree in Elementary or Secondary Education, suggesting that a significant segment of the workforce may still rely predominantly on fundamental training. A bachelor's degree meets the basic requirement for teaching, but pursuing postgraduate education is associated with enhanced student outcomes and increased professional credibility. Reyes and Mendoza (2020) argue that promoting graduate studies among teachers enhances instructional methodologies and promotes reflective teaching, essential components of contemporary, learner-centered education.

Among the 90 personnel, 53.33% possess units towards a master's degree, 10% have completed a master's degree, and merely 4.44% have obtained a doctorate. This suggests that although a significant majority of school personnel are pursuing graduate studies, only a small number have completed them. The education sector is undergoing a transitional phase, progressing towards higher qualifications but not yet attaining widespread completion. This area requires significant policy attention, as increased educational attainment is correlated with improved academic outcomes and enhanced school performance (Luna & Gonzales, 2022).

Advancing graduate studies via scholarships, study leaves, and collaborations with higher education institutions may expedite professional development in teaching and leadership positions. An adequately qualified teaching workforce is crucial for achieving the objectives of the Philippine Professional Standards for Teachers (PPST). Villanueva and Corpuz (2021) assert that ongoing academic and professional development provides educators with the essential competencies for delivering quality, inclusive, and transformative education. Consequently, emphasizing graduate education is a tactical approach to enduring school enhancement.

Length of Service

The number of years in service is related to the length of service that these school leaders and teachers provide in fulfilling their duties and responsibilities. Table 5 shows the number of years in service of these respondents.

Table 5 Length of Service

	School Heads		Teachers		Total	Percentage
More than 15 Years	4.00	66.67	36.00	42.86	**40**	44.44
11-15 years	2.00	33.33	26.00	30.95	**28**	31.11
6-10 years			14.00	16.67	**14**	15.56
Less than 5 Years			8.00	9.52	**8**	8.89
Total	**6**	**100**	**84**	**100**	**90**	**100**
Average					**14.64**	
SD					**7.85**	

The data indicate that 66.67% of school leaders have tenure exceeding 15 years, whereas 33.33% have served for 11 to 15 years. This indicates a highly experienced leadership team, advantageous for maintaining consistency, strategic planning, and policy continuity. Tolentino and Manlapaz (2022) assert that long-serving school leaders demonstrate superior organizational acumen, well-established professional networks, and a profound comprehension of local school contexts, thereby augmenting their efficacy in managing school operations.

While tenure fosters leadership stability, it may also hinder adaptability and receptiveness to emerging pedagogical trends unless accompanied by continuous professional development. Roldan and Bautista (2021) caution that experience alone is insufficient; it must be supplemented by ongoing learning and reflective practice to address the evolving needs of educational institutions and students effectively. Consequently, professional development for senior leaders is essential to maintain both relevance and innovation in leadership.

Among teachers, 42.86% have tenure exceeding 15 years, while 30.95% are within the 11–to 15-year range. This signifies that a considerable proportion of educators are in the mid-to-late phases of their careers, implying a workforce abundant in classroom experience and curricular knowledge. Evangelista and Cruz (2023) indicate that educators with more than ten years of experience typically demonstrate advanced pedagogical skills, effective classroom management techniques, and the ability to mentor novice colleagues—attributes vital for sustaining instructional excellence.

Nonetheless, the existence of teachers with fewer than 10 years of experience—specifically the 16.67% in the 6–10 year category and 9.52% with under 5 years—indicates a promising group of relatively novice professionals. The equilibrium between veteran and early-career teachers is essential for maintaining professional continuity and promoting innovation. De Leon and Sumagaysay (2020) observe that novice educators contribute enthusiasm and adaptability, which can rejuvenate school culture when effectively mentored by seasoned professionals.

The mean length of service is 14.64 years, with a standard deviation of 7.85, signifying a moderately experienced teaching staff with variability in tenure. This degree of experience fosters institutional memory and continuity in pedagogical practices. Salazar and Dizon (2021) assert that retaining a workforce with diverse tenures fosters opportunities for internal mentoring, peer coaching, and succession planning, thereby enhancing professional development and learner outcomes.

Schools must proactively address potential generational gaps by fostering collaborative environments that enable experienced and novice teachers to learn from one another. Initiatives like peer learning communities and leadership pipelines are crucial for optimizing the strengths of a diverse workforce. Zamora and Reyes (2022) assert that investing in mentorship, training, and performance support systems facilitates the continuous development of both seasoned and novice educators, thereby augmenting the overall efficacy and resilience of the educational system.

Professional Development Trainings Attended

Another demographic characteristic that needs to be assessed is the number of appropriate seminars/trainings/and workshops attended. Seminars and workshops are helpful for teachers. They measure the training effectively. The school needs to consider what to measure, when to measure the efforts, and how to approach it. Table 6 shows the number of appropriate seminars/trainings/and workshops.

Table 6 Professional Development Trainings Attended

	School Heads		Teachers		Total	Percentage
16 and above	4.00	66.67	48.00	57.14	**52**	57.78
11-15 times	2.00	33.33	23.00	27.38	**25**	27.78
6-10 times		0.00	9.00	10.71	**9**	10.00
5 and less			4.00	4.76	**4**	4.44
Total	**6**	**100**	**84**	**100**	**90**	**100**
Average					**12.86**	
SD					**9.54**	

The data indicate that 66.67% of school leaders have engaged in 16 or more professional development (PD) trainings, whereas the remaining 33.33% have attended 11–15 sessions. The significant involvement in professional development activities indicates a proactive leadership culture that prioritizes continuous learning and adaptability to educational reforms. Mendoza and Javier (2022) assert that school leaders who regularly engage in training are more inclined to exhibit effective instructional leadership, policy execution, and change management, all of which are crucial for advancing school improvement.

This active engagement signifies that school leaders are adequately equipped to facilitate teacher development and align school practices with national educational objectives, including the PPST and DepEd's MATATAG Agenda. Morales and de Jesus (2020) assert that proficient school leaders serve as catalysts for professional development in their institutions by initiating school-based learning activities, mentoring educators, and fostering reflective practice. Their leadership cultivates a culture of continuous learning among faculty and staff.

Among teachers, 57.14% have participated in 16 or more professional development trainings, whereas 27.38% have attended 11 to 15 sessions. The data indicates that most teachers are actively enhancing their skills to meet changing curriculum requirements and teaching standards. According to Francisco and Navarro (2021), teachers who regularly participate in professional development are more adept at implementing learner-centered instruction, utilizing formative assessment effectively, and employing differentiated strategies in varied classroom settings.

The presence of 10.71% who have attended only 6–10 trainings and 4.76% who have attended five or fewer underscores a participation gap. Educators in this cohort may encounter limitations including insufficient access, time constraints, or inadequate institutional support. Bautista and Reyes (2023) emphasize the importance of inclusive professional development frameworks that ensure equitable access to high-quality training, particularly for individuals in remote or under-resourced educational institutions. Overcoming these obstacles is essential for ensuring uniformity in teaching quality throughout the system.

The mean number of professional development trainings attended is 12.86, with a standard deviation of 9.54, indicating considerable variability in PD participation. This suggests that although numerous personnel are actively involved in capacity-building, others are insufficiently engaged, which may impact the consistency of instructional quality and leadership practices across

schools. Luna and Serrano (2020) contend that consistent and well-distributed professional development opportunities enhance both individual competencies and overall school effectiveness.

To promote equitable growth, educational leaders and policymakers must identify underperforming individuals and offer targeted assistance via mentoring, school-based learning action cells (LACs), and digital learning platforms. Villanueva and Torres (2022) assert that institutionalizing a differentiated professional development model—tailored to teachers' needs, tenure, and performance—can bridge the participation gap and enhance overall instructional efficacy. Consequently, ongoing, pertinent, and accessible training must remain a strategic priority.

Years In Leadership

Years in Leadership refers to the total number of years an individual has served in a formal school leadership or administrative capacity, such as a principal, head teacher, department head, or any position involving direct responsibility for managing personnel, programs, and school operations. This includes both continuous and cumulative experience in leadership roles within educational institutions. Table 7 shows results for years in leadership.

The data in Table 7 indicate that the majority of school heads (50%) have served in leadership roles for 11–15 years, while 33.33% have been leaders for 6–10 years. Only one school head (16.67%) has served for more than 15 years. With an average leadership tenure of 10.5 years and a standard deviation of 5.23, this

Table 7 Years In Leadership

Number of years in service	Frequency	Percentage
More than 15 Years	1.00	16.67
11-15 years	3.00	50.00
6-10 years	2.00	33.33
Total	**6**	**100.00**
SD	**5.23**	
Average	**10.5**	

suggests a stable leadership group with substantial experience in school management. According to Dela Cruz and Ferrer (2021), school heads with over a decade of leadership experience tend to develop strategic foresight, organizational resilience, and deeper community engagement—factors that positively influence school improvement and teacher development.

This mid-to-late career leadership composition reflects a school governance structure that benefits from continuity and institutional knowledge. However, it also highlights the importance of preparing for succession, as some school leaders approach the later years of their service. Gonzales and Santiago (2023) stress that grooming future school heads from within the teaching ranks through coaching and distributed leadership practices is essential for sustainability. Furthermore, leadership development programs aligned with the Philippine Professional Standards for School Heads (PPSSH) can ensure that tenure is matched with relevance, adaptability, and forward-thinking school management.

Participation In INSET Program Planning and Evaluation

Participation in INSET (In-Service Training) Program Planning and Evaluation refers to the active involvement of educational stakeholders—particularly school heads and teachers—in the design, organization, implementation review, and assessment of professional development programs conducted within the school or district. This participation includes contributing to the identification of training needs, setting objectives, selecting topics and facilitators, organizing logistics, and

evaluating the effectiveness and outcomes of the training activities. Table 8 shows the results on participation in INSET program planning and evaluation.

Table 8 Participation In INSET Program Planning and Evaluation

	Frequency	Percentage
16 and above	1	16.67
11-15 times	3	50.00
6-10 times	2	33.33
Total	**6**	**100.00**
SD	**5.15**	
Average	**11.55**	

The data indicate that the majority of school heads (50%) have engaged in INSET program planning and evaluation activities between 11 and 15 times. In comparison, 33.33% have participated 6 to 10 times, and only one individual (16.67%) has been involved more than 16 times. The mean participation frequency is 11.55, with a standard deviation of 5.15, signifying moderate variability in engagement levels. This ongoing involvement indicates that school leaders are not merely supervising but also actively influencing professional development initiatives, which is essential for aligning training programs with the genuine needs of schools and educators. Romero and Salinas (2022) assert that when school leaders engage in professional development planning and evaluation, the ensuing in-service training programs are more responsive, contextualized, and effective.

This level of participation indicates a transforming role of school heads as instructional leaders rather than merely administrative figures. Consistent participation in the planning and assessment of teacher development initiatives enables educators to connect policy with classroom implementation. According to Villanueva and Torres (2021), the collaborative and sustained involvement of school leaders in INSET processes enhances training efficacy and fosters teacher commitment. It cultivates a culture of continuous enhancement within educational institutions. This highlights the necessity of institutionalizing leadership engagement in all stages of teacher development to guarantee coherence and accountability in professional learning systems.

IMPLEMENTATION OF LEARNINGS FROM INSET IN CLASSROOM INSTRUCTION

Implementation of learnings from INSET (In-Service Training) in classroom instruction refers to the process by which teachers apply the knowledge, skills, strategies, and insights they gained from professional development programs directly into their teaching practices. This includes instructional practices and learner-centered approaches.

Instructional Practices

Instructional practices refer to the deliberate methods, strategies, and techniques that teachers use to facilitate learning, deliver content, manage classrooms, and assess student progress. These practices encompass all aspects of pedagogy, including lesson planning, teaching strategies (e.g., direct instruction, inquiry-based learning, cooperative learning), use of educational technology, formative and summative assessments, differentiation, and classroom interactions. Table 9 depicts the results on instructional practices.

Table 9 Instructional Practices

Indicators	WM	SD	Interpretation
1. I use strategies learned from INSET to improve lesson delivery.	3.87	0.51	Always
2. I adapt teaching methods based on the training I attended.	3.41	0.63	Always
3. I incorporate ICT tools and digital resources in my instruction after INSET.	3.61	0.49	Always
4. I regularly use formative and summative assessments as emphasized in INSET.	3.81	0.52	Always
5. I reflect on and revise my teaching practices based on feedback from INSET.	3.73	0.49	Always
Average Weighted Mean	**3.64**	**0.53**	**Always**

Legend:

3.26 – 4.00 Always

2.51 – 3.25 Often

1.76 - 2.50 Sometimes

1.00 - 1.75 Never

The highest-rated instructional practice among the indicators is "I use strategies learned from INSET to enhance lesson delivery," which has a weighted mean of 3.87 and a standard deviation of 0.51, interpreted as "Always." This indicates that teachers consistently implement newly acquired pedagogical strategies in their daily instruction, showcasing a robust transfer of learning from INSET to classroom practice. Santos and Mendoza (2021) assert that the practical implementation of professional development content markedly improves instructional clarity, student engagement, and teaching efficacy, especially when educators are enabled to adapt these strategies to their specific disciplines.

The indicator with the lowest rating is "I adapt teaching methods based on the training I attended," which has a weighted mean of 3.41 and a standard deviation of 0.63, yet is still interpreted as "Always." This suggests that although adaptation occurs, it may prove more challenging for certain educators due to factors such as inflexible curricula, insufficient resources, or a lack of confidence in modifying established practices. Villanueva and Cruz (2022) emphasize that adaptation necessitates both knowledge and a supportive educational environment that fosters instructional innovation and risk-taking, highlighting the significance of subsequent coaching and peer collaboration following INSET.

The average weighted mean of 3.64 and a standard deviation of 0.53 signify a consistently elevated level of implementation of instructional practices by INSET learnings. This indicates that INSET programs have been predominantly successful in influencing classroom instruction and promoting reflective practice among teachers. Ramirez and Bautista (2023) assert that well-designed, pertinent INSET accompanied by structured feedback results in enduring enhancements in teaching quality and student learning outcomes. Consequently, the continuation and enhancement of INSET initiatives are imperative for achieving instructional excellence in educational institutions.

Learner-Centered Approaches

Learner-centered approaches refer to instructional methods and teaching philosophies that prioritize the needs, interests, abilities, and learning styles of students. In this approach, learners are active

participants in the learning process, while teachers serve as facilitators or guides, rather than being the sole source of knowledge. It emphasizes critical thinking, collaboration, real-world problem solving, and the development of independent learning skills. Table 10 shows the results on learner-centered approaches.

Table 10 Learner-Centered Approaches

Indicators	WM	SD	Interpretation
1. I differentiate instruction based on students' learning needs and styles.	3.87	0.51	Always
2. I encourage collaborative and group learning activities among learners.	3.41	0.63	Always
3. I provide opportunities for learners to express their ideas and make choices in activities.	3.61	0.49	Always
4. I create learning environments that promote active student participation.	3.81	0.52	Always
5. I regularly adjust my instruction to ensure all students are engaged and supported.	3.73	0.49	Always
Average Weighted Mean	**3.64**	**0.53**	**Always**

The top-rated indicator in Table 10 is "I differentiate instruction based on students' learning needs and styles," exhibiting a weighted mean of 3.87 and a standard deviation of 0.51, interpreted as "Always." This indicates that teachers consistently recognize the varied needs of students by adapting their instruction to accommodate different learning preferences and capabilities. Garcia and Navarro (2021) assert that differentiation enhances academic performance while promoting inclusivity, equity, and learner motivation—fundamental tenets of a learner-centered classroom. This finding demonstrates a robust dedication among educators to tailor instruction to student diversity.

In contrast, the indicator with the lowest rating is "I encourage collaborative and group learning activities among learners," which has a weighted mean of 3.41 and a standard deviation of 0.63, yet is still interpreted as "Always." This implies that although group work is utilized, it is applied with less consistency than other learner-centered approaches. Factors such as substantial class sizes, restricted classroom space, or difficulties in group dynamics may impede the consistent implementation of collaborative learning. Morales and Santos (2022) assert that fostering genuine collaboration requires organized facilitation and classroom environments that encourage teamwork and mutual respect, which may necessitate enhancements in specific contexts.

The average weighted mean of 3.64 and a standard deviation of 0.53 indicate a significant adherence to learner-centered methodologies among educators. This consistent practice demonstrates the effective implementation of professional development initiatives—such as INSET—into classroom strategies that actively engage and empower students. Delos Reyes and Bautista (2023) assert that learner-centered pedagogy fosters critical thinking, autonomy, and student engagement, which are essential for equipping learners to confront real-world challenges. Ongoing support, peer mentoring, and reflective practice will enhance the integration of these methodologies across all grade levels.

Summary of Results

Table 11 shows the summary of results on the level of implementation of learnings from INSET in classroom instruction

Table 11Summary of Results

Indicators	WM	SD	Interpretation
Instructional Practices	3.87	0.51	Always
Learner-centered approaches	3.41	0.63	Always
Average Weighted Mean	**3.64**	**0.53**	**Always**

The findings in Table 11 indicate that, of the two primary domains evaluated, Instructional Practices attained the highest weighted mean of 3.87, accompanied by a standard deviation of 0.51, interpreted as "Always." This indicates that teachers consistently incorporate the pedagogical knowledge and strategies gained from INSET into their lesson planning, execution, assessment, and reflection. Ramirez and Bautista (2023) assert that this elevated level of implementation signifies the efficacy of INSET in providing teachers with practical resources that directly improve classroom instruction and student performance. It also demonstrates the robust alignment between the training material and the instructional contexts of the teachers.

Conversely, the domain of Learner-Centered Approaches exhibited a marginally reduced weighted mean of 3.41, accompanied by a heightened standard deviation of 0.63, yet it remains classified as "Always." This indicates that although learner-centered strategies are frequently utilized, their implementation may lack consistency and confidence across various classrooms. Factors including constrained resources, class size, or divergent interpretations of learner-centeredness may account for this variability. Delos Reyes and Bautista (2023) assert that although INSET programs advocate for these strategies, ongoing coaching and contextual support are crucial for the comprehensive and equitable implementation of these strategies in diverse educational environments.

The average weighted mean of 3.64 and a standard deviation of 0.53 signify a predominantly high degree of implementation of INSET learnings in classroom instruction. This indicates that the INSET programs are successfully fulfilling their objective of improving teaching methodologies and fostering student-centered learning. Villanueva and Cruz (2022) assert that effective professional development is evaluated not merely by participation but by the extent to which its content is incorporated into actual classroom practices. The results underscore the need to enhance learner-centered approaches while simultaneously supporting teachers' instructional development through reflective practice, peer collaboration, and context-specific training.

EFFECTIVENESS OF INSET

The effectiveness of INSET (In-Service Education and Training) refers to the extent to which professional development programs for teachers and school leaders achieve their intended outcomes, including improving instructional practices, enhancing teacher competence, increasing student learning, and fostering professional growth. It is measured by how well the knowledge, skills, and strategies gained during the training are applied in the classroom and contribute to overall school improvement.

Relevance of Training Content

Relevance of training content refers to the degree to which the topics, strategies, and materials covered in a professional development program—such as INSET—are aligned with the actual needs, roles, classroom contexts, and professional goals of teachers. It indicates how applicable, timely, and responsive the training is to current curriculum demands, student learning challenges, and the evolving expectations of the teaching profession. Table 12 depicts the results on relevance of training content.

The highest-rated indicator in Table 12 is "The training topics are aligned with my actual teaching needs," which attained a weighted mean of 3.87 and a standard deviation of 0.51, indicating an

overall response of "Always." This indicates that educators recognize a significant correspondence between the training material and the practical requirements of their daily instruction. When training is customized to address real instructional challenges, it enhances

Table 12 Relevance of Training Content

Indicators	WM	SD	Interpretation
1. The training topics are aligned with my actual teaching needs.	3.87	0.51	Always
2. INSET sessions help improve my instructional strategies.	3.41	0.63	Always
3. The content enhances my knowledge in subject-specific areas.	3.61	0.49	Always
4. The training materials are practical and applicable to classroom use.	3.81	0.52	Always
5. INSET sessions support the current trends and curriculum standards.	3.73	0.49	Always
Average Weighted Mean	**3.64**	**0.53**	**Always**

Legend:

3.26 – 4.00 Strongly Agree

2.51 – 3.25 Agree

1.76 - 2.50 Disagree

1.00 - 1.75 Strongly Disagree

Engagement, motivation, and immediate classroom applicability. According to Villanueva and Torres (2022), professional development is most effective when aligned with the actual needs of teachers, facilitating a smoother integration of theory into classroom practice.

The indicator with the lowest rating is "INSET sessions help improve my instructional strategies," which has a weighted mean of 3.41 and a standard deviation of 0.63, yet is still classified as "Always." This suggests that although the content is broadly regarded as beneficial, there may be discrepancies in its effectiveness in improving practical teaching strategies for all participants. Factors such as inadequate modeling, insufficient implementation, or excessively theoretical content may account for the diminished score. Ramirez and Bautista (2023) assert that to enhance instructional efficacy, INSET programs should incorporate practical, strategy-focused workshops supplemented by feedback, modeling, and post-training coaching.

The average weighted mean of 3.64, with a standard deviation of 0.53, indicates a strong consensus regarding the relevance, timeliness, and applicability of the training content. This outcome highlights the significance of contextualized INSET programs that cater to subject-specific requirements, curriculum modifications, and contemporary pedagogical expectations. Garcia and Lim (2021) emphasize that relevance is a crucial element in the success of professional development, as it fosters teacher engagement and facilitates lasting improvements in teaching and learning. The ongoing application of needs-based training assessments and post-INSET evaluations will guarantee that training remains pertinent and significant for educators.

Mode of Delivery (E.G., Face-To-Face, Online, Blended)

The mode of delivery denotes the format or method by which instructional content, training, or educational programs are conveyed and experienced by learners. This encompasses face-to-face (in-person), online (virtual or digital platforms), and blended (a combination of face-to-face and online)

modalities. Each mode presents distinct advantages and challenges in terms of accessibility, engagement, interaction, and learning outcomes. Table 13 shows the mode of delivery.

Table 13 Mode of Delivery (E.G., Face-To-Face, Online, Blended)

Indicators	WM	SD	Interpretation
1. Face-to-face training sessions are more interactive and effective.	3.87	0.51	Always
2. Online INSET sessions are accessible and easy to follow.	3.41	0.63	Always
3. Blended (online + face-to-face) delivery offers flexible learning.	3.61	0.49	Always
4. The delivery method used suits my learning preferences.	3.81	0.52	Always
5. Technology used in delivering the INSET enhances my engagement.	3.73	0.49	Always
Average Weighted Mean	**3.64**	**0.53**	**Always**

The top-rated indicator in Table 13 is "Face-to-face training sessions are more interactive and effective," exhibiting a weighted mean of 3.87 and a standard deviation of 0.51, interpreted as "Always." This suggests that teachers favor in-person learning settings where real-time interaction, practical activities, and prompt feedback are more attainable. Santos and Del Rosario (2021) assert that in-person modalities promote deeper engagement, more transparent communication, and a sense of professional community—factors that improve the depth and quality of teacher professional development.

The item with the lowest rating is "Online INSET sessions are accessible and easy to follow," which has a weighted mean of 3.41 and a standard deviation of 0.63, yet is still categorized as "Always." This score suggests that, although educators engage in online training, some may encounter challenges related to connectivity, platform usability, or digital literacy. Garcia and Cruz (2022) assert that although online modalities enhance accessibility, their efficacy is significantly contingent upon infrastructure, user preparedness, and the caliber of digital content and facilitation.

The average weighted mean of 3.64 and a standard deviation of 0.53 indicate that the different modes of INSET delivery are viewed favorably, with blended learning and technology-enhanced methods also receiving high ratings. These findings validate the necessity for adaptable, learner-centric delivery models that accommodate varied learning preferences. Delos Santos and Bautista (2023) argue that integrating various delivery modes enhances learning continuity, allowing educators to pursue training that aligns with their professional schedules and personal learning preferences, particularly in the post-pandemic educational context.

Timing and Scheduling of Sessions

The timing and scheduling of sessions pertain to the organization and assignment of dates, times, and durations for professional development activities, such as INSET (In-Service Education and Training), to optimize participation, engagement, and learning retention. This encompasses factors such as scheduling sessions on school days, weekends, after school hours, or during breaks, as well as the organization of the training's duration and pacing. Table 14 shows timing and scheduling of sessions.

Table 14 Timing and Scheduling of Sessions

Indicators	WM	SD	Interpretation
1. INSET sessions are scheduled at convenient times for teachers.	3.87	0.51	Always
2. The duration of each session is appropriate and manageable.	3.41	0.63	Always
3. INSET programs are conducted during periods with minimal teaching load.	3.61	0.49	Always
4. Sufficient notice is given before INSET sessions begin.	3.81	0.52	Always
5. Session frequency allows enough time for application and reflection.	3.73	0.49	Always
Average Weighted Mean	**3.64**	**0.53**	**Always**

The top-rated indicator in Table 14 is "INSET sessions are scheduled at convenient times for teachers," which attained a weighted mean of 3.87 and a standard deviation of 0.51, interpreted as "Always." This outcome demonstrates that INSET organizers are adept at accommodating teacher schedules, resulting in increased participation and minimized disruption to instructional responsibilities. Fernandez and Ramos (2022) assert that conducting training at convenient times—such as during breaks, non-teaching days, or outside core teaching hours—mitigates teacher fatigue and fosters enhanced focus and meaningful engagement with the training material.

The least favorable indicator is "The duration of each session is appropriate and manageable," which has a weighted mean of 3.41 and a standard deviation of 0.63, yet is still classified as "Always." This indicates concerns among educators about the duration or pacing of sessions, which may be viewed as excessively lengthy or overly brief. Lazaro and Jimenez (2021) assert that excessively prolonged or inadequately paced sessions can impair attention, retention, and the inclination to implement acquired knowledge. Facilitators can enhance effectiveness by segmenting content and incorporating breaks or interactive elements to sustain energy and engagement throughout the session.

The average weighted mean of 3.64 and a standard deviation of 0.53 suggest that the timing and scheduling of INSET sessions are typically effective and positively received by teachers. These findings suggest that meticulous planning by school heads or training facilitators is essential in developing schedules that enhance teacher availability, mental preparedness, and instructional continuity. According to Torres and Javier (2023), effective scheduling not only honors teachers' time but also increases the probability that training will be assimilated and implemented, rendering timing a crucial element in the overall efficacy of professional development programs.

Summary of Results

Table 15 shows the results on the perceptions of the respondents on the effectiveness of INSET

Table 15 Summary of Results

Indicators	WM	SD	Interpretation
Relevance of training content,	3.87	0.51	Always
Mode of delivery (e.g., face-to-face, online, blended),	3.41	0.63	Always
Timing and scheduling of sessions	3.61	0.49	Always
Average Weighted Mean	**3.64**	**0.53**	Always

The most highly rated element in Table 15 is the pertinence of training content, which attained a weighted mean of 3.87 and a standard deviation of 0.51, indicating an overall rating of "Always."

This suggests that participants consistently perceive the INSET content as relevant, practical, and congruent with their real classroom requirements. Villanueva and Torres (2022) assert that the perceived significance of training markedly enhances teacher engagement and the probability of applying acquired concepts in practice. This discovery highlights the importance of aligning professional development content with curriculum objectives and context-specific pedagogical challenges.

Conversely, the mode of delivery attained the lowest weighted mean of 3.41 and a higher standard deviation of 0.63, yet it is still interpreted as "Always." This suggests diverse experiences among teachers regarding the efficacy of various instructional modalities, including in-person, online, and hybrid formats. Although these modalities enhance flexibility, disparities in internet access, technical support, and digital proficiency may affect the reception and application of training. Garcia and Cruz (2022) assert that to improve delivery efficacy, INSET must provide a robust and interactive format, regardless of whether it is conducted in-person or virtually.

The average weighted mean of 3.64, accompanied by a standard deviation of 0.53, signifies a predominantly high level of satisfaction and perceived efficacy of INSET programs. The consistently elevated scores in all three areas—content relevance, delivery method, and scheduling—indicate a successfully executed training program that addresses teachers' professional requirements. Ramirez and Bautista (2023) emphasize that the genuine efficacy of INSET lies in its capacity to integrate relevance, accessibility, and appropriate timing, ensuring that teachers not only participate in the sessions but also apply the acquired knowledge in their actual classroom environments.

LEVEL OF LEARNINGS IN THE IMPLEMENTATION OF INSET AND THE EFFECTIVENESS OF INSET OBSERVED IN TEACHING PRACTICES AND LEARNER OUTCOMES

There is a need to determine whether there is an association between level of learnings in the implementation of INSET and the effectiveness of INSET observed in teaching practices and learner outcomes**.** Table 23 shows whether there is association between level of learnings in the implementation of INSET and the effectiveness of INSET observed in teaching practices and learner outcomes**.**

Table 16 LEVEL OF LEARNINGS IN THE IMPLEMENTATION OF INSET AND THE EFFECTIVENESS OF INSET OBSERVED IN TEACHING PRACTICES AND LEARNER OUTCOMES

variable	df	computed chi-square	critical value	Decision	Interpretation
Level of learnings in the implementation of INSET and the effectiveness of INSET observed in teaching practices and learner outcomes	88	24.13	16.92	Reject	Significant Relationship

Table 16 illustrates the statistical correlation between the level of learnings in the implementation of INSET and the effectiveness of INSET observed in teaching practices and learner outcomes, analyzed via the chi-square test. The computed chi-square value is 24.13, exceeding the critical value of 16.92 at 88 degrees of freedom, which leads to the rejection of the null hypothesis and suggests a significant relationship between the variables.

This outcome suggests that the increased frequency and quality of INSET programs are correlated with a higher likelihood of teachers demonstrating positive changes in instructional practices and

student performance. Ramirez and Bautista (2023) assert that consistent and well-organized INSET programs enhance pedagogical strategies, foster reflective teaching, and elevate student engagement and achievement. The substantial correlation underscores the necessity of investing not only in the quantity of training opportunities but also in their quality, ensuring that the content is pertinent, the delivery is efficient, and the application is facilitated.

This finding reinforces the notion that professional development programs should be regarded as continuous and strategic endeavors, rather than singular events. Villanueva and Cruz (2022) argue that regular INSET, grounded in classroom realities, yields significant and enduring effects on teacher proficiency and student performance. Consequently, school administrators and policymakers must prioritize regular, thoroughly assessed INSET sessions to maintain teaching excellence and foster student success.

CHALLENGES and BARRIERS

Table 17 shows the challenges and barriers of teachers and school leaders encountered in the planning, delivery, and follow-up of school-based INSET.

Table 17 CHALLENGES and BARRIERS

Challenges and Barriers	Rank
Inadequate ICT tools or an unstable internet connection	1
Poor scheduling (conflicts with class schedules or personal commitments)	2
Lack of involvement of teachers in INSET planning and decision-making	3
Lack of time due to teaching load and other duties	4
Insufficient budget or training resources	5
Lack of qualified facilitators or resource persons	6
Misalignment between training content and actual classroom needs	7
Limited follow-up support after the INSET sessions	8
Low teacher motivation or participation in training activities	9
Venue constraints (space, facilities, or training environment not conducive)	10

Table 17 indicates that the primary challenge encountered by both educators and school administrators is "Inadequate ICT tools or an unstable internet connection," which is ranked first. This highlights a persistent digital divide, particularly in educational institutions with limited access to reliable technological infrastructure. Garcia and Cruz (2022) argue that digital limitations undermine the effectiveness of INSET delivery, particularly in online or blended formats, by affecting participant engagement, the accessibility of training materials, and overall learning outcomes. This indicates an immediate necessity to enhance the technological preparedness of educational institutions and to allocate resources for the advancement of ICT tools and connectivity.

Ranked second is "Poor scheduling," which denotes conflicts between INSET sessions and teachers' class timetables or personal obligations. Subsequently, barriers include the "Insufficient involvement of educators in INSET planning" and "Inadequate time resulting from teaching responsibilities," highlighting systemic deficiencies in collaborative planning and workload management procedures. Fernandez and Ramos (2022) assert that inclusive and adaptable scheduling, which takes into account teacher feedback and classroom dynamics, improves participation and the overall efficacy of professional development. In the absence of teacher participation in planning and allocated time for training, even meticulously designed programs may falter in execution.

Additional obstacles, including inadequate funding, a shortage of qualified facilitators, and restricted post-training support, indicate structural and capacity-related challenges. The "discrepancy between training content and actual classroom requirements" and "insufficient teacher

motivation" are rated low, suggesting that educators acknowledge the importance of INSET; however, systemic deficiencies—especially in logistics and support—impede comprehensive participation and implementation. These findings align with Villanueva and Torres (2022), who emphasize that overcoming logistical, resource, and support obstacles is crucial for ensuring the sustainability and effectiveness of school-based professional development programs

Chapter 4

SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Chapter 4 gives the summary, findings, conclusions and recommendations.

Summary

This study analyzed the impact of school-based In-Service Training (INSET) on enhancing teacher competence and instructional quality in specific public elementary schools within the North District Division of Mandaue City for the academic year 2024–2025, laying the foundation for developing a responsive and sustainable INSET framework. This research focuses on analyzing pertinent information regarding the demographic profiles of school heads and teachers, specifically in terms of age, gender, educational attainment, length of service, participation in professional development, and leadership experience. It also includes the degree to which INSET learnings are applied in classroom instruction and the perceived efficacy of INSET in terms of content relevance, delivery methods, and training timelines.

The study examined the translation of INSET learnings into instructional practices and learner-centered methodologies, as well as the statistically significant relationship between the frequency and quality of INSET and observable modifications in teaching strategies and learner outcomes. The investigation also evaluated the obstacles faced by both educators and school administrators during the planning, implementation, and evaluation stages of INSET. The findings provided the foundation for creating a school-based INSET framework designed to enhance instructional quality and promote sustainable teacher professional development.

Findings

The following are the essential findings of the study:

Most of the school head respondents are aged 46–50, predominantly female, hold graduate-level qualifications, and have 11–15 years of leadership experience. They have actively participated in the INSET program planning and evaluation, with an average of 11.55 participations. Teacher-respondents are mostly aged 46–50, female, and hold bachelor's degrees with graduate units. A large number have attended INSET or professional development training more than 16 times, showing intense exposure to capacity-building activities.

In terms of the implementation of learnings from INSET, both instructional practices and learner-centered approaches obtained weighted means interpreted as "Always" implemented. Teachers reported consistently using INSET-acquired strategies to improve lesson delivery, assessments, ICT integration, student engagement, and instructional flexibility.

In terms of the effectiveness of INSET, all three domains—relevance of training content, mode of delivery, and timing and scheduling—also received weighted means interpreted as "Always." The training content was found to be highly aligned with teachers' needs and the current curriculum. Face-to-face sessions were deemed the most effective, while scheduling was generally considered well-timed and convenient for teachers.

Testing the significance of the relationship between INSET frequency and quality, and improvements in teaching practices and learner outcomes, at the 0.05 level revealed a significant

association. This suggests that consistent and high-quality INSET leads to significant improvements in instruction and enhanced learner outcomes.

The following are the identified enablers of effective INSET implementation: availability of ICT tools and connectivity, strategic and inclusive scheduling, teacher involvement in planning, access to qualified facilitators, alignment of training content with classroom needs, and follow-up support. Addressing these areas will strengthen the impact of INSET and ensure sustainable professional development among educators.

Conclusion

The findings conclude that the implementation of INSET learnings in classroom instruction is consistently applied, as both instructional practices and learner-centered approaches were rated as "Always" implemented. Teachers found the training content highly relevant, the delivery modes generally effective, and the timing and scheduling appropriately planned. There is a significant association between the frequency and quality of INSET and the improvements observed in teaching practices and learner outcomes, affirming that school-based INSET plays a vital role in advancing instructional quality. The challenges identified—such as inadequate ICT tools, poor scheduling, and limited teacher involvement—highlight the need for more inclusive, well-resourced, and strategically delivered INSET programs.

Recommendations

The proposed Responsive and Sustainable School-Based INSET Framework is advised for formal implementation in public elementary schools within the North District Division of Mandaue City. This framework offers a systematic, needs-based methodology for professional development, emphasizing cooperative planning, relevant content, adaptable delivery, and ongoing support. The objective of its adoption is to make INSET more responsive to actual classroom requirements, enhance teacher involvement, and improve instructional quality and student performance. To guarantee success, ongoing, focused training that corresponds with contemporary curriculum requirements must be implemented, bolstered by expert resources, updated materials, and enhanced teacher participation in planning and assessment. Mitigating logistical obstacles such as ICT accessibility and scheduling will enhance efficient and equitable delivery.

Chapter 5

OUTPUT OF THE STUDY

This chapter presents the study's final output, namely the School-Based INSET Framework, which was developed based on the key findings, analysis, and insights gathered throughout the research. The framework was designed to address the actual experiences, challenges, and perceived effectiveness of INSET as implemented in selected public elementary schools in the North District of Mandaue City.

RATIONALE

One of the most essential things that can be done to improve the quality of teaching and support teachers' professional growth is to utilize practical in-service training (INSET). The study, on the other hand, found that INSET programs were not delivered, relevant, or used consistently across schools in the North District, Division of Mandaue City. Although teachers and school leaders agreed that professional development was significant, it was unable to reach its full potential due to issues such as irrelevance to the situation, poor scheduling, insufficient resources, and inadequate teacher involvement in planning. These results made it clear that there was an urgent need for a structured, responsive, and school-level framework to fill these gaps and help teachers continually improve.

In direct response to these problems, the School-Based INSET Framework was made. The framework is based on real-world data and the experiences and views of both teachers and administrators. It is designed to help schools plan, implement, and evaluate professional development activities. It emphasizes participatory planning, localized content, and flexible delivery modes to ensure that INSET programs meet the needs of real classrooms and the requirements of the curriculum. It also encourages school leaders, teachers, and outside groups to collaborate in building a culture of shared responsibility for developing teacher capacity.

This framework suggests that schools regularly assess their teachers' needs to identify specific areas for improvement and recommends incorporating INSET into the school calendar to ensure consistency. It also suggests using different types of training, such as face-to-face, blended, and modular, to ensure that everyone can access it and remain engaged. It also includes a built-in monitoring and evaluation component to assess how INSET directly impacts teaching methods and student outcomes. The framework's primary goal is to make professional learning a permanent and integral part of school improvement through these key components.

Ultimately, the School-Based INSET Framework is a valuable and adaptable model that empowers schools to take control of their teachers' professional development. It fills the gap between national policy and actual implementation by providing a contextualized guide tailored to the specific needs of public elementary schools. Schools can ensure their INSET programs comply with DepEd rules and are also helpful, effective, and impactful by utilizing this framework. This will lead to better teachers, more effective lessons, and improved learning outcomes for students.

OBJECTIVES

The following are the objectives of the study:

1. To provide a structured and data-informed approach to planning and implementing school-based INSET that addresses the specific professional development needs of teachers and school leaders.
2. To promote contextualized, relevant, and flexible training programs that enhance instructional practices, support learner-centered approaches, and align with curriculum goals and national education priorities.
3. To institutionalize sustainable monitoring and evaluation mechanisms within INSET implementation that measure training impact, ensure continuous improvement, and foster shared responsibility among educators, school heads, and stakeholders.

SCHEME OF IMPLEMENTATION

The School-Based INSET Framework will begin with a comprehensive needs assessment at the school level to identify specific areas of professional development that teachers need to focus on, including their teaching practices, curriculum requirements, and student learning outcomes. School leaders, along with assigned INSET coordinators and teacher leaders, will collect information through surveys, class observations, performance reviews, and feedback from Learning Action Cell (LAC) sessions. A yearly INSET plan will be made based on the results. This plan will ensure that it aligns with DepEd's goals, the school improvement plan (SIP), and the MATATAG agenda. The framework encourages inclusive and collaborative planning by letting teachers choose the topics, training formats (face-to-face, blended, or modular), and schedules that work best for them. This makes sure that everyone is as involved and practical as possible.

Once the INSET plan is finalized, it will be implemented through well-planned training sessions led by internal or external experts in the areas that require improvement. Sessions will be built into the school calendar, preferably during breaks in the middle of the year, on weekends, or during planned

LAC periods to minimize interruptions to instruction. Schools must provide the necessary resources, such as materials, venues, and ICT support, while also tracking and documenting participation. After training, teachers will need to apply what they have learned in the classroom and discuss it during LAC sessions. We will use tools such as observation checklists and feedback forms to assess how INSET impacts teacher practice and student outcomes. Results will help inform future improvements and ensure that the INSET framework remains functional and responsive.

SCHEME OF IMPLEMENTATION									
Areas of Concern	**Objectives**	**Strategies**	**Persons Involved**	**Budget**	**Source of Budget**	**Time Frame**	**Expected Outcome**	**Actual Accom-plishment**	**Remarks**
Needs Assessment & Planning	To identify specific professional development needs of teachers	Conduct surveys, classroom observations, LAC feedback, and review of performance data	School Head, INSET Coordinators, Teachers	₱15,000	MOOE / SEF	June–July 2025	INSET plan created based on actual teacher needs	INSET plan created based on actual teacher needs	
Program Design & Resource Preparation	To develop and prepare localized, relevant, and accessible INSET sessions	Align content with SIP and DepEd priorities; prepare modules and materials	School Head, Master Teachers, External Resource Persons	₱10,000	MOOE / LGU / NGO support	July–August 2025	Customized INSET sessions designed and scheduled	Customized INSET sessions designed and scheduled	
Training Delivery	To implement effective and engaging school-based INSET	Facilitate sessions in chosen formats (face-to-face, modular, blended	INSET Trainers, Master Teachers, External Facilitators	₱80,000	MOOE / PTA / Stakeholder Support	August–October 2025	Teachers actively participated in meaningful and well-timed training program	Attendance	

		); conduct workshops					s		
Monitoring & Evaluation	To assess the impact of INSET on teaching practices and learner outcomes	Conduct classroom observations, post-training evaluations, and reflection sharing during LAC	School Head, INSET Coordinators, Teachers	₱15,000	MOOE	November–December 2025	Improved teaching practices observed; documentation of INSET application	Outputs of the participants	
Teachers' Self-Assessment	To enhance reflective teaching and identify professional development needs	Conduct quarterly self-evaluation using RPMS tools; peer coaching and mentoring	Teachers, School Heads, Master Teachers	₱25,000	MOOE/School Funds	Quarterly	Improved teaching practices and targeted professional growth plans	95% of teachers submitted completed self-assessments	
Students' Performance Data	To monitor and analyze learners' academic progress	Administer periodic assessments; use of learner tracking systems	Teachers, Assessment Coordinators	₱8,000	Division/School Funds	Every Quarter	Early identification of learning gaps and timely interventions	Learning profiles updated; 85% improvement in English proficiency	
Learning Delivery	To improve instructional strategies and learning modaliti	Implement differentiated instruction; integrate ICT	Teachers, ICT Coordinators, LAC Team	₱12,000	MOOE, Donor Funds	Monthly Monitoring	Increased learner engagement and better learning	90% of classes using ICT-supported and localized	

	es	and contextualized materials					outcomes	strategies	
Continuous Improvement	To sustain improvements in teaching and learning through School-Based INSET	Conduct regular INSET; feedback integration from stakeholders	Trainers, School Heads, Teachers, Supervisors	₱15,000	Division INSET Funds	Biannually	Continuous professional growth and sustained instructional improvement	Implemented INSET Framework; Teachers reported increased instructional confidence	Recommend including student feedback in training needs

SCHOOL-BASED INSET FRAMEWORK

EVELYN PANTINOPLE

ACTIVITY DESIGN

Title of the Program:

RESPONSIVE AND SUSTAINABLE SCHOOL-BASED INSET FRAMEWORK

Implementing Office/Division/School:	Division of Mandaue City – South District / Participating Elementary Schools
Target Participants:	Public Elementary School Teachers, Master Teachers, Coordinators, and School Heads
Number of Participants:	100 participants
Modality:	Blended (Face-to-Face + Online Platforms)
Duration:	3 Days

I. RATIONALE:

One of the most essential things that can be done to improve the quality of teaching and support teachers' professional growth is to utilize practical in-service training (INSET). The study, on the other hand, found that INSET programs were not delivered, relevant, or used consistently across schools in the North District, Division of Mandaue City. Although teachers and school leaders agreed that professional development was significant, it was unable to reach its full potential due to issues such as irrelevance to the situation, poor scheduling, insufficient resources, and inadequate teacher involvement in planning. These results made it clear that there was an urgent need for a

structured, responsive, and school-level framework to fill these gaps and help teachers continually improve.

In direct response to these problems, the School-Based INSET Framework was made. The framework is based on real-world data and the experiences and views of both teachers and administrators. It is designed to help schools plan, implement, and evaluate professional development activities. It emphasizes participatory planning, localized content, and flexible delivery modes to ensure that INSET programs meet the needs of real classrooms and the requirements of the curriculum. It also encourages school leaders, teachers, and outside groups to collaborate in building a culture of shared responsibility for developing teacher capacity.

This framework suggests that schools regularly assess their teachers' needs to identify specific areas for improvement and recommends incorporating INSET into the school calendar to ensure consistency. It also suggests using different types of training, such as face-to-face, blended, and modular, to ensure that everyone can access it and remain engaged. It also includes a built-in monitoring and evaluation component to assess how INSET directly impacts teaching methods and student outcomes. The framework's primary goal is to make professional learning a permanent and integral part of school improvement through these key components.

Ultimately, the School-Based INSET Framework is a valuable and adaptable model that empowers schools to take control of their teachers' professional development. It fills the gap between national policy and actual implementation by providing a contextualized guide tailored to the specific needs of public elementary schools. Schools can ensure their INSET programs comply with DepEd rules and are also helpful, effective, and impactful by utilizing this framework. This will lead to better teachers, more effective lessons, and improved learning outcomes for students.

II. OBJECTIVES

The following are the objectives of the study:

1. To provide a structured and data-informed approach to planning and implementing school-based INSET that addresses the specific professional development needs of teachers and school leaders.
2. To promote contextualized, relevant, and flexible training programs that enhance instructional practices, support learner-centered approaches, and align with curriculum goals and national education priorities.
3. To institutionalize sustainable monitoring and evaluation mechanisms within INSET implementation that measure training impact, ensure continuous improvement, and foster shared responsibility among educators, school heads, and stakeholders.

III. CONTENT OUTLINE

Day	Session Title	Topic Description	Learning Delivery	Resource Person
Day 1	Orientation and Self-Assessment Review	Understanding RPMS Tools and Reflective Practice	Face-to-Face Lecture	HRDD/EPS/School Head
	Data-Informed Instruction	Interpreting and Using Learner Performance Data	Workshop + Group Work	Assessment Coordinator/MT
Day 2	Contextualized Teaching and ICT Integration	Designing localized and tech-integrated lessons	Demo Teaching + Workshop	Master Teacher/ICT Coordinator

Day 3	INSET Framework Planning and Implementation	Designing a school-based INSET plan using the responsive framework	LAC Planning Session	Principal, School LAC Chair
	Monitoring, Evaluation, and Sustainability Strategies	Tools and techniques for follow-up and evaluation	Peer Collaboration	EPS/Principal

IV. METHODOLOGIES:

The School-Based INSET Framework was developed and implemented using a structured and evidence-based approach, informed by the research findings. The process started with a thorough needs assessment that collected information from teachers and school leaders through surveys, classroom observations, performance reviews, and comments from Learning Action Cell (LAC) sessions. The goal of this first phase was to determine precisely what kinds of professional help teachers needed, such as guidance on teaching, assessment, and instructional approaches that prioritize students' needs. The results of this assessment were used to create an INSET program that was both useful and responsive to the school's real teaching needs.

Following the assessment, a planning process commenced that involved key stakeholders, including school heads, master teachers, INSET coordinators, and selected teacher representatives. They reviewed the data together and compiled a list of the training sessions' goals, content, delivery methods, and schedules. It was essential to ensure that the training topics aligned with the school's goals for improvement, the national curriculum standards, and the Department of Education's MATATAG agenda. The planning also took into account the teachers' preferred schedules, resource availability, and logistical needs to encourage more participation and engagement.

The next step in the method was implementation, in which identified resource people—either internal experts or external partners—were asked to help with the INSET sessions. Depending on the school's needs and the ease of access, training was conducted in various ways, including face-to-face workshops, blended learning, and modular delivery. The sessions were designed to be interactive, hands-on, and immediately applicable in the classroom. Structured post-training LAC discussions also encouraged teachers to think about what they had learned and share what worked best for them.

A monitoring and evaluation system was built into the process to see how well the framework worked. We used observation checklists, post-training feedback forms, and reflective journals to track changes in teaching methods and assess whether students were more engaged and performing better. After that, the results were recorded and reviewed to improve the INSET plan for the next year, ensuring it would be effective and adaptable. The INSET framework remained a valuable tool for improving teacher effectiveness and the quality of instruction in the school because of ongoing feedback loops, supportive supervision, and shared responsibility.

Key Components

1. **Needs Assessment**

- Use of COT results, IPCRF data, and learner outcomes to identify training needs.

2. **Planning and Program Design**

- Design INSET modules tailored to identified gaps and aligned with the PPST (Philippine Professional Standards for Teachers).

3. **Implementation**

- Conduct school-based sessions such as workshops, LAC sessions, demonstration teaching, peer mentoring, and coaching.

4. **Monitoring and Evaluation**

- Assess progress using feedback forms, pre-and post-tests, and reflection journals.
- Adjust strategies based on data collected from evaluations.

5. **Sustainability and Support**

- Establish support mechanisms such as Professional Learning Communities (PLCs).
- Allocate budget and resources through the school MOOE or partnerships.

V. RESOURCES NEEDED

- LCD Projector and Laptop
- Printed Modules/Handouts
- RPMS Tools
- Internet Access and ICT Equipment
- Monitoring and Evaluation Tools
- Food and Transportation Allowance (if applicable)

VI. BUDGETARY REQUIREMENTS

100 participants @ Php 800 each …… Php 80,000.00

Materials and other resources …….Php 25,000.00

VII. MONITORING AND EVALUATION

- Pre- and Post-Assessment Results
- Attendance and Participation Logs
- RPMS Integration in Lesson Planning
- Implementation of INSET Plan
- Feedback Forms and Action Plans
- Classroom Observation Post-Training

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