

Strategies, Challenges, and Coping Interventions of Teachers Teaching Research in Public Stand-Alone Senior High Schools in Central Luzon, Philippines

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ABSTRACT

This study assessed and evaluated the strategies, challenges, coping interventions, and utilized by teachers in teaching research in public stand-alone senior high schools in the Central Luzon Region, Philippines. Descriptive-evaluative, descriptive-comparative, and descriptive-correlational research designs were used in the quantitative research methodology. The respondents were 917 research teachers from public stand-alone senior high schools in Central Luzon. A validated survey questionnaire was used to gather data, and the results were analyzed using frequency, percentage, weighted mean, standard deviation, t-test, ANOVA, and Pearson-r correlation. The findings revealed that most respondents had one to three research-related trainings (82.0%), were married (76.2%), and held bachelor's degrees (73.2%). All respondents utilized learning management systems, research textbooks, PowerPoint presentations, and sample research articles as instructional resources. Teachers highly utilized direct instruction ($M=3.84$, $SD=0.36$), collaborative learning ($M=3.89$, $SD=0.28$), hands-on activities ($M=3.83$, $SD=0.37$), innovative strategies ($M=3.84$, $SD=0.36$), and student-centered approaches ($M=3.89$, $SD=0.28$). The study also revealed that teachers encountered very challenging resource-related and student-related issues, both with an overall weighted mean of 3.57. Collaboration emerged as the most used coping intervention ($M=3.90$, $SD=0.26$), followed by instructional adaptation ($M=3.89$, $SD=0.28$), technology use ($M=3.88$, $SD=0.30$), and training ($M=3.85$, $SD=0.32$). Significant differences were found in Collaborative Learning ($P = 0.041$) and Student-Centered Strategies ($P = 0.011$) based on age. Likewise, significant differences in challenges were observed according to highest educational attainment in student-related ($P = 0.006$), resource-related ($P = 0.007$), teacher-related ($P = 0.006$), technology-related ($P = 0.008$), collaboration-related ($P = 0.007$), and training-related challenges ($P = 0.012$). Significant differences in coping interventions were also found in collaboration ($P = 0.009$), training ($P = 0.018$; $P = 0.021$), instructional adaptation ($P = 0.048$; $P = 0.018$), and technology utilization ($P = 0.024$) based on age and teaching experience. Moreover, a moderate positive significant relationship existed between strategies and challenges encountered ($r=0.450$, $p=0.000$). Based on the findings, a recommended action plan was developed to address the identified challenges and strengthen effective coping interventions among research teachers. The plan focused on enhancing professional development programs, improving access to technological resources, and strengthening institutional support systems through collaborative and technology-based practices.

Keywords: Teaching Strategies, Research Teachers, Coping Interventions, Instructional Challenges, Senior High School, Research Education

INTRODUCTION

In the contemporary educational system, the research skills of the students are evidently honed by the teachers in order to prepare them to be globally competent. Significantly, teachers enhance the skills of the students focusing on research literacy, inquiry-based learning, and evidence-informed thinking as essential competencies that teachers must incorporate into classroom instruction (OECD, 2023; Lucas & Hanson, 2025). It is observed that teachers who handle research subjects are expected to carry a complex professional responsibility that

extends beyond traditional teaching and that will require them not only to focus on pedagogical expertise but also methodological competence and sustained emotional engagement.

In the Philippine context, the implementation of the K to 12 Curriculum has incorporated research subjects in Senior High School, highlighting both qualitative and quantitative approaches to strengthen students' critical thinking and problem-solving skills. Qualitative Research is a methodology used to study human behavior, perspectives, and experiences using non-numerical data. On the other hand, Quantitative Research employs numerical data to quantify and predict outcomes. The integration of these subjects in the senior high school curriculum emphasizes that learners should embrace the culture of research as a way of preparing them for higher education (Almazan, 2023). By introducing Practical Research subjects, students will be more engaged in adopting the 21st learners' skills.

In view of this, teachers are the primary implementers who translate curriculum goals into classroom practice, often under constrained conditions. Teachers handling research subjects in public senior high schools encounter challenges related to limited instructional resources, inadequate training, students' low research readiness, and heavy teaching loads. To address these challenges, teachers adopt various teaching strategies such as step-by-step research guidance, the use of contextualized examples, and extended consultation periods (Tabalba & Paglinawan, 2025).

Despite these challenges, teachers employ coping interventions to sustain their effectiveness in teaching research. These interventions include seeking support from colleagues and participating in mentoring sessions, which help strengthen their confidence and maintain the effectiveness of their teaching strategies amid persistent challenges (Dfocusz & Javier, 2022; Santos et al., 2023). These circumstances emphasize that teachers' strategies and coping interventions are influenced by the challenges they encounter, making the teachers' perspectives essential in understanding research instruction.

Teachers also utilize strategies such as guided and contingent instruction by integrating differentiated learning activities and providing continuous feedback to students. In addition, they rely on coping interventions such as peer collaboration and self-directed professional learning to maintain their confidence in teaching research, especially at the senior high school level. Furthermore, subject specialization and institutional support through Learning Action Cells (LAC) and Focus Group Discussions (FGD) have positive effects in motivating and supporting teachers in teaching research.

Despite the growing body of research on teaching challenges and coping strategies, existing studies often treat teachers as a homogeneous group and rarely focus specifically on teachers teaching research as a distinct instructional population. Moreover, limited attention has been given to the school context in which research teaching occurs. This gap is particularly evident in studies involving public stand-alone senior high schools, which differ structurally and operationally from integrated secondary schools. Teachers in stand-alone senior high schools typically work in environments with fewer subject specialists, limited professional learning communities, and reduced institutional support, conditions that intensify the demands of teaching research (Dela Cruz & Javier, 2022; Santos et al., 2023).

In public stand-alone senior high schools in Central Luzon, teachers encountered various challenges in teaching research, and it must be addressed carefully through preparing lesson plans based on their own strategies encompassing learning competencies. The teachers must guide student researchers in writing by presenting sample studies, providing timely feedback after checking outputs, boosting their confidence in order to refrain from experiencing emotional difficulties and motivating them to reach their full potential. These responsibilities place a heavy workload on teachers as they need to create their own strategies and coping interventions in maintaining quality education while sustaining their well-being as teachers. However, there was a limited study emphasizing these experiences.

Notably, existing literature provides limited evidence on the strategies, challenges, and coping interventions of teachers in teaching research in public stand-alone senior high schools in Central Luzon (Region III), Philippines.

While previous studies have explored research instruction in various educational settings, little attention has been given to the experiences of research teachers in stand-alone senior high schools, particularly within the context of the K–12 curriculum implementation.

Central Luzon was selected as the study locale because it is a key region in the implementation of the K–12 program and is home to a growing number of public stand-alone senior high schools (Department of Education Regional Office III, 2025). The region encompasses both urban and rural communities, creating diverse learning environments with varying levels of institutional resources (Manalo, 2024). In addition, its strong agricultural sector, expanding industrial areas, and growing economy provide opportunities for educational institutions to establish partnerships that support student immersion activities and experiential learning (Cariaso, 2025). These characteristics make Central Luzon a relevant and representative setting for examining the practices, challenges, and coping interventions of teachers in teaching research in public stand-alone senior high schools (Department of Education Regional Office III, 2025).

The uniqueness of this study is its focus on the experiences of research teachers, particularly the strategies employed, challenges encountered, and coping interventions adopted in teaching research. While existing studies often emphasize students' difficulties and learning outcomes, this study highlights research teachers as key implementers of instruction whose experiences directly influence the quality of research education. Through a deductive approach that examines teaching practices, challenges, and coping interventions, this study provided important data in the development of an action plan that may help generate professional development programs, institutional-level support mechanisms, and policy initiatives aimed at strengthening research instruction and teacher sustainability in senior high schools.

Research Questions

This study evaluated the strategies, challenges and coping interventions of teachers teaching Research in public stand-alone senior high schools in the Central Luzon, Philippines. Specifically, it answered the following questions:

1. What is the demographic profile of the research teachers in terms of:
 - 1.1 age,
 - 1.2 civil status,
 - 1.3 highest educational attainment,
 - 1.4 number of years as a research teacher in public senior high school, and
 - 1.5 number of trainings attended in teaching research in public senior high school for the last three (3) years?
2. What is the scope and sequence of the research subject in Senior High School?
3. What instructional materials do the teacher use in teaching research?
4. What strategies do the teacher use in teaching research?
5. What is the assessment of the teacher on the following teaching strategies:
 - 5.1 direct instruction,
 - 5.2 collaborative learning,
 - 5.3 hands-on activities,
 - 5.4 use of innovative strategies, and
 - 5.5 student-centered strategies?
6. What challenges do teachers encounter in teaching research in terms of:
 - 6.1 student-related challenges,
 - 6.2 resources-related challenges

- 6.3 teacher-related challenges, and
- 6.4 technology-related challenges
- 6.5 collaboration, and
- 6.6 training?
- 7. What coping interventions do the research teachers employ to overcome the challenges in terms of the following:
 - 7.1 collaboration,
 - 7.2 training,
 - 7.3 instructional adaptation, and
 - 7.4 technology utilization?
- 8. Is there a significant difference on the strategies used by the teachers in teaching research when they are grouped according to their profile?
- 9. Is there a significant difference on the challenges encountered by the teachers in teaching research when they are grouped according to their profile?
- 10. Is there a significant difference on the coping interventions used by the teachers in teaching research to overcome the challenges?
- 11. Is there a significant relationship between the strategies and challenges encountered by the teachers in teaching research?
- 12. Based on the findings of the study, what action plan may be formulated on (a) challenges, and (b) positive coping interventions for teachers teaching research in senior high schools?

LITERATURE REVIEW

Strategies Utilized in Teaching Research

Various teaching strategies have been employed by teachers to facilitate research instruction and improve students' understanding of research concepts and processes. Collaborative learning enables students to work together, exchange ideas, and develop critical thinking skills through group activities and discussions. According to Serrano and Dela Cruz (2022), collaborative learning enhances student engagement and promotes meaningful learning through interaction and shared experiences. Similarly, Vygotsky (1978) emphasized that learning occurs through social interaction, making collaboration an essential component of research instruction.

Inquiry-based and student-centered approaches encourage students to explore problems, formulate questions, and discover solutions through investigation. Flores and Cruz (2023) noted that learner-centered instructional practices improve students' participation, motivation, and academic performance. Likewise, direct instruction remains an effective strategy in presenting research concepts, methodologies, and procedures in a structured manner. Stedy and Alfanta (2024) emphasized that direct instruction improves student understanding through systematic and organized teaching procedures.

Technology integration has also become an important instructional approach in research education. The use of digital resources, online databases, educational software, and learning management systems provides students with access to information and supports the research process. Theodorio et al. (2024) and Toquero and Capistrano (2024) emphasized that technology integration and innovative instructional practices improve teaching effectiveness, student engagement, and learning outcomes. These teaching strategies promote active learning and contribute to the development of research competencies among students.

Challenges in Teaching Research

Despite the importance of research instruction, teachers continue to experience several challenges in teaching research subjects. One of the most common difficulties involves students' limited knowledge and skills in conducting research, including problem identification, data gathering, data analysis, and research writing. Tabalba and Paglinawan (2025) reported that students commonly encounter difficulties in understanding

research concepts and applying research procedures. Similarly, Flores and Cruz (2023) emphasized that students' preparedness and motivation significantly influence classroom engagement and academic performance.

Teachers also encounter difficulties associated with insufficient instructional materials, limited access to research resources, and inadequate technological support. Olvido et al. (2024) stressed that instructional resources significantly contribute to instructional effectiveness and teaching quality. Likewise, Toquero and Capistrano (2024) highlighted the importance of educational resources and technological support in improving teaching and learning outcomes.

Additionally, heavy teaching loads, multiple administrative responsibilities, and limited opportunities for professional development create further challenges for teachers. Odanga and Aloka (2024) emphasized that professional responsibilities and workload influence teachers' performance and instructional effectiveness. Similarly, Lin (2022) observed that workplace demands and teaching experiences affect teachers' professional practices and classroom management.

Coping Interventions in Addressing Problems in Teaching Research

To address these challenges, teachers employ various coping interventions that help them manage their responsibilities and maintain instructional effectiveness. Collaboration with colleagues, peer mentoring, and participation in professional learning communities provide opportunities for sharing experiences, teaching materials, and effective instructional practices. Serrano and Dela Cruz (2022) emphasized that professional collaboration promotes knowledge sharing and improves instructional effectiveness.

Teachers also engage in self-directed learning and participate in seminars, workshops, and professional development activities to improve their teaching competencies. Olvido et al. (2024) emphasized that continuous professional development contributes significantly to teachers' instructional competence and professional growth. Likewise, Flores and Cruz (2023) noted that collegial support and professional learning opportunities enhance teachers' workplace satisfaction and effectiveness.

Furthermore, teachers utilize instructional adaptation and technology integration to address learning difficulties and resource limitations. Toquero and Capistrano (2024) emphasized that teachers' adaptability and creativity contribute to effective classroom instruction, particularly in resource-limited environments. Theodorio et al. (2024) likewise highlighted the importance of technological resources in supporting effective teaching practices.

The coping process is further explained by Lazarus and Folkman (1984), who stated that individuals use coping strategies to manage stressful situations and adapt to workplace demands. Their theory suggests that coping interventions help teachers maintain professional functioning despite instructional challenges.

Overall, the reviewed literature demonstrates that teaching strategies, instructional challenges, and coping interventions are interconnected factors that influence the effectiveness of research instruction. However, limited studies have specifically examined these variables among teachers teaching research in public stand-alone senior high schools in Central Luzon. This research gap provides the basis for the present study.

THEORETICAL FRAMEWORK

This study is anchored on Bandura's Social Cognitive Theory (1986), Lazarus and Folkman's Stress and Coping Theory (1984), and Vygotsky's Sociocultural Theory of Constructivism (1978). These theories provide the foundation for explaining the strategies, challenges, and coping interventions of teachers teaching research in public stand-alone senior high schools in Central Luzon.

Bandura's Social Cognitive Theory explains that teachers' self-efficacy, shaped by personal experiences and environmental factors, influences the teaching strategies they employ. Lazarus and Folkman's Stress and Coping Theory explains how teachers respond to instructional challenges, such as heavy workload, limited resources, and students' research difficulties, through appropriate coping interventions. Meanwhile, Vygotsky's

Sociocultural Theory of Constructivism emphasizes that learning occurs through guidance, collaboration, and scaffolding, enabling teachers to facilitate students' understanding of research concepts.

Collectively, these theories explain how teachers' beliefs, instructional practices, challenges, and coping interventions influence the delivery of research instruction.

CONCEPTUAL FRAMEWORK

The conceptual framework illustrates the hypothesized relationships among the variables of the study. It shows that teachers' demographic profile (age, educational attainment, years of teaching experience, and number of research-related trainings attended) may influence their teaching strategies, challenges encountered, and coping interventions in teaching research.

The framework further illustrates the relationship between teaching strategies and challenges, as well as the coping interventions employed by teachers in response to these challenges. The findings of the study served as the basis for developing an action plan aimed at improving research instruction in public stand-alone senior high schools in Central Luzon.

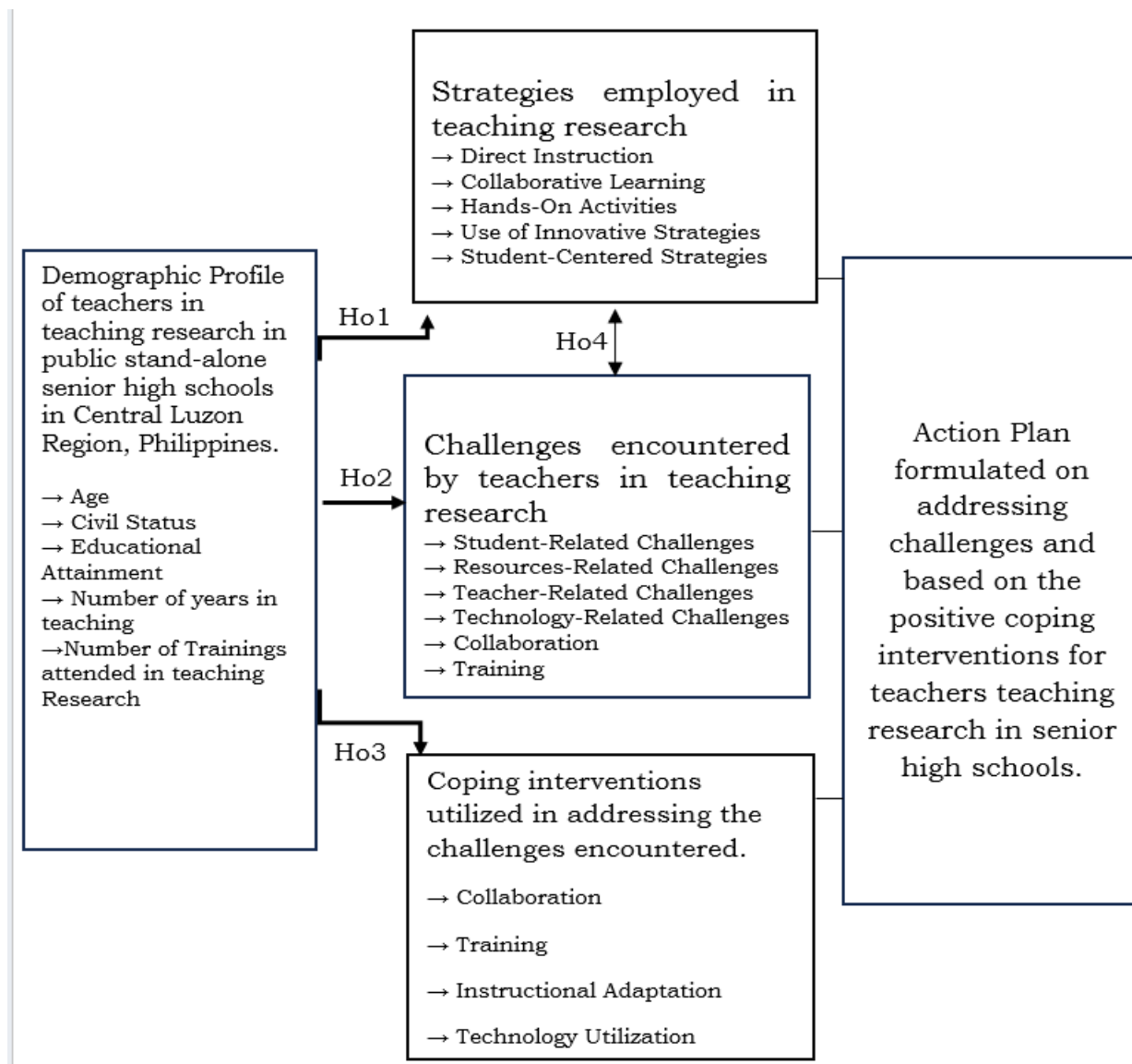


Figure 1 Research Simulacrum

METHODS

Research Design

This study employed a descriptive-correlational research design to determine the teaching strategies, challenges, and coping interventions of teachers teaching research in public stand-alone senior high schools in Central Luzon. The descriptive method was used to describe the respondents' teaching strategies, the challenges they encountered, and the coping interventions they employed. Meanwhile, the correlational approach was utilized to determine the relationships among the variables included in the study. This research design was considered appropriate because it enabled the researcher to examine the existing conditions and determine the association between the identified variables.

Respondents of the Study

The respondents of the study consisted of 917 teachers teaching research subjects in public stand-alone senior high schools in the different divisions of Central Luzon. These teachers were selected based on their direct involvement in teaching research subjects in the senior high school curriculum. The respondents represented various demographic characteristics, including age, sex, educational attainment, length of service, and teaching experience in research subjects.

The selection of respondents ensured that the study gathered relevant information from teachers who possess firsthand experiences regarding research instruction. Their responses provided valuable insights into the strategies they employ, the challenges they encounter, and the coping interventions they utilize in teaching research.

Instrument of the Study

The study utilized a researcher-made questionnaire as the primary instrument for data collection. The instrument was developed based on an extensive review of related literature and studies concerning teaching strategies, challenges in research instruction, and coping interventions employed by teachers.

The questionnaire consisted of several parts that gathered information regarding the respondents' profile, teaching strategies utilized in teaching research, challenges encountered in teaching research, and coping interventions employed in addressing these challenges. The instrument underwent content validation by experts in research and education to ensure the appropriateness, clarity, and relevance of the items. Necessary revisions were made based on the recommendations of the validators before the actual administration of the instrument.

Validity and Reliability of the Instrument

For validation purposes, the researcher's instrument was checked and scrutinized by five experts. For validation purposes, the researcher-made instrument was reviewed and evaluated by five experts. Four of the validators hold doctorate degrees and have extensive experience in education. One validator is a public-school head and a university professor. Another validator is a licensed professional teacher and a former Program Head of the College of Education. The other two validators are university professors with expertise in research and instruction.

The fifth validator is an English language expert who checked the instrument for clarity, grammar, and language use. This validator is a seasoned university professor with two decades of experience teaching English. To enhance the validity of the questionnaire, the comments from these validators was meticulously included into the instrument.

All these experts scrutinized the material, the appropriate user's level, and the grammar content of the researcher-made survey questionnaire.

Pilot testing was performed with 15 individuals who possess identical qualities to the intended respondents but are excluded from the study's respondent group; specifically, they are 5 research teachers who are teaching at least 1 year in the current school, and these teachers are not connected in Central Luzon region.

In addition, the data obtained from the pilot testing was subjected to a reliability evaluation using the Cronbach alpha technique. The reliability of the research instrument was assessed using Cronbach's alpha (α) to determine the internal consistency of the components. For the strategies employed in teaching research, the computed Cronbach's alpha values focused on the five variables, with direct instruction ($\alpha = 0.752$), collaborative learning ($\alpha = 0.765$), hands-on activities ($\alpha = 0.822$), use of innovative strategies ($\alpha = 0.825$), and student-centered strategies ($\alpha = 0.825$). In the component of challenges encountered, the instrument focused on student-related challenges ($\alpha = 0.800$), technology-related challenges ($\alpha = 0.822$), collaboration ($\alpha = 0.825$), and training ($\alpha = 0.856$). Finally, the component of coping interventions utilized to overcome challenges showed the internal consistency, with collaboration ($\alpha = 0.855$), training ($\alpha = 0.841$), instructional adaptation ($\alpha = 0.823$), and technology utilization ($\alpha = 0.855$).

Overall, the computed Cronbach's alpha coefficients for all variables indicated that the survey instrument was reliable and consistent for measuring strategies, challenges, and coping interventions in the context of teaching research.

Ethical Considerations

The study adhered to established ethical guidelines to protect the rights, dignity, safety, and welfare of all respondents throughout the research process. The principles of beneficence and non-maleficence guided the study by maximizing its potential benefits while minimizing possible physical, psychological, social, and economic risks to participants. Respect for autonomy was upheld by obtaining informed consent, ensuring that participation was voluntary, that respondents were fully informed about the purpose, procedures, risks, and benefits of the study, and that they could withdraw at any time without penalty. The principle of justice was observed through the fair selection of respondents and the equitable distribution of the benefits and responsibilities of the research. Privacy and confidentiality were maintained by anonymizing responses, securely storing research data, and restricting data access to authorized personnel only.

The study also acknowledged the possibility of social desirability bias, wherein respondents may provide answers they perceive as more socially acceptable rather than their actual experiences or practices. To minimize this risk, respondents were assured of the anonymity and confidentiality of their responses and were encouraged to answer honestly, with no right or wrong responses. In addition, the questionnaire included carefully constructed reverse-coded items to assess the consistency of responses and reduce acquiescence and socially desirable responding, thereby enhancing the validity and reliability of the collected data.

The study was reviewed and approved by the Our Lady of Fatima University-Institutional Ethics Review Committee (OLFU-IERC) and was checked using Turnitin to ensure originality and research integrity. No undue inducements were provided, and respondents were free to decline or withdraw from the study at any stage without consequences. Data collection was conducted professionally at mutually convenient times and venues, with identified risks addressed through appropriate safeguards. Finally, the researcher upheld honesty, transparency, and accountability in data collection, analysis, and reporting, avoiding fabrication, falsification, and plagiarism to ensure the credibility and integrity of the study.

Data Gathering Procedure

Prior to the conduct of the study, permission to administer the survey questionnaire was secured from the concerned educational authorities and school administrators. After obtaining the necessary approvals, the researcher distributed the questionnaires to qualified respondents from public stand-alone senior high schools in Central Luzon.

The purpose of the study was clearly explained to the respondents, and they were informed that their participation was voluntary. The accomplished questionnaires were collected, checked for completeness, organized, and prepared for statistical analysis. The gathered data served as the basis for determining the teaching strategies, challenges, and coping interventions of research teachers.

Statistical Treatment

The data collected from the respondents were analyzed using appropriate statistical tools. Frequency and percentage were utilized to describe the demographic profile of the respondents. Weighted mean and standard deviation were employed to determine the extent of teaching strategies, challenges encountered, and coping interventions.

Moreover, t-test and one-way analysis of variance (ANOVA) were used to determine significant differences among groups of respondents. Pearson Product-Moment Correlation was utilized to examine the relationships among the variables, while multiple regression analysis was employed to determine which teacher profile variables significantly predict the challenges encountered and coping interventions employed by teachers teaching research in public stand-alone senior high schools. Specifically, separate regression models were conducted using the respondents' profile characteristics as the independent variables and the composite mean scores for challenges and coping interventions as the dependent variables. This analysis identified the significant predictors while determining the extent to which the independent variables explained the variance in the dependent variables. Statistical significance was tested at the 0.05 level. These statistical treatments enabled the researcher to interpret the findings and address the objectives of the study.

RESULTS AND DISCUSSION

As depicted in Table 1, most research teachers were 31-40 years old (53.2%), followed by those aged 21-30 (37.3%), while only a few belonged to the older age groups.

These findings imply that research instruction is primarily handled by teachers who are in the early to middle stages of their careers, where professional experience and adaptability are likely to be well developed.

The predominance of teachers aged 31-40 may be explained by Bandura's Social Cognitive Theory, which suggests that repeated teaching experiences strengthen self-efficacy through mastery experiences. Having accumulated several years of teaching experience, teachers in this age group are more likely to demonstrate confidence and competence in teaching research. This finding also supports Lin (2022), who emphasized that demographic characteristics influence teachers' instructional practices and professional experiences.

The distribution of the respondents according to age is presented in Table 1.

Table 1 Profile of the Research Teachers in Terms of Age

Age	Frequency	Percentage
21-30 Years Old	342	37.3
31-40 Years Old	488	53.2
41-50 Years Old	78	8.5
51-60 Years Old	9	1.0
Total	917	100.0

As presented in Table 2, the majority of the research teachers were married (76.2%), while 23.7% were single, and only one respondent was widowed.

These findings imply that most teachers balance family responsibilities with their professional duties while teaching research.

The predominance of married teachers may be explained by Lazarus and Folkman's Stress and Coping Theory, which suggests that social support serves as an important coping resource in managing work-related demands. Family support may help teachers cope more effectively with the challenges of research instruction. This finding highlights the importance of social support in sustaining teachers' work engagement and resilience. This is supported by the study of Lin (2022), who emphasized that demographic characteristics influence teachers' instructional practices and professional experiences. Flores and Cruz (2023) likewise emphasized that teachers' experiences contribute to the development of effective classroom practices.

The distribution of the respondents according to civil status is presented in Table 2.

Table 2 Profile of the Research Teachers in Terms of Civil Status

Civil Status	Frequency	Percentage
N Single	217	23.7
Married	699	76.2
Widowed	1	0.1
Total	917	100.0

As shown in Table 3, the majority of the research teachers held a bachelor's degree (73.2%), followed by those with master's units (16.9%), master's degree holders (9.8%), and one respondent with doctoral units.

These findings imply that while most teachers possess the minimum qualifications to teach research, many are still pursuing graduate education to enhance their professional competence.

The predominance of bachelor's degree holders may be explained by Bandura's Social Cognitive Theory, which suggests that continuous learning provides mastery experiences that strengthen teachers' self-efficacy and instructional competence. As teachers pursue advanced studies, they gain additional knowledge and confidence in teaching research. This finding also supports Olvido et al. (2024), who emphasized that higher educational attainment enhances instructional competence and research capability.

The distribution of the respondents according to highest educational attainment is presented in Table 3.

Table 3 Profile of the Research Teachers in Terms of Highest Educational Attainment

Highest Educational Attainment	Frequency	Percentage
Bachelor's Degree	671	73.2
With Master's Units	155	16.9
Master's Degree	90	9.8
With Doctor's Units	1	0.1
Total	917	100.0

As presented in Table 4, the majority of the research teachers had been teaching research for 6–10 years (58.1%), while 41.9% had 1–5 years of experience.

These findings imply that most respondents have accumulated sufficient experience to develop effective instructional practices in teaching research.

The predominance of teachers with 6–10 years of teaching experience may be explained by Bandura's Social Cognitive Theory, which suggests that repeated teaching experiences strengthen self-efficacy through mastery experiences. Having taught research for several years, these teachers are more likely to demonstrate confidence and competence in facilitating research instruction. This finding also supports Odanga and Aloka (2024), who emphasized that teaching experience contributes to professional growth and instructional competence.

The distribution of the respondents according to the number of years as a research teacher is presented in Table 4.

Table 4 Profile of the Research Teachers in Terms of Number of Years as a Research Teacher in Public Stand-Alone Senior High School

Number of Years as a Research Teacher in Public Stand-Alone Senior High School	Frequency	Percentage
1-5 year/s	384	41.9
6-10 years	533	58.1
Total	917	100.0

As shown in Table 5, most research teachers attended 1–3 training programs in teaching research during the last three years (82.0%), while only 18.0% attended 4–6 trainings.

These findings imply that opportunities for professional development in research instruction remain limited for most teachers.

The predominance of teachers who attended only 1–3 trainings may be explained by Vygotsky's Social Constructivist Theory, which emphasizes that professional learning develops through collaboration, guidance, and shared experiences. Limited participation in training may reduce opportunities for teachers to strengthen their instructional knowledge and skills. This finding also aligns with **Bandura's Social Cognitive Theory**, which suggests that learning experiences enhance teachers' self-efficacy and confidence. Likewise, **Olvido et al. (2024)** emphasized that professional development improves instructional competence and research capability.

The distribution of the respondents according to the number of trainings attended in teaching research during the last three years is presented in Table 5.

Table 5 Profile of the Research Teachers in Terms of Number of Trainings Attended in Teaching Research in a Public Stand-Alone Senior High School for the Last Three (3) Years

Number of Trainings Attended in Teaching Research in a Public Stand-Alone Senior High School for the Last Three (3) Years	Frequency	Percentage
1-3	752	82.0
4-6	165	18.0
Total	917	100.0

The data presented in Table 6 revealed that research textbooks, PowerPoint presentations, Learning Management Systems, and sample research papers were utilized by all respondents (100.0%). Video lessons (99.6%) and printed modules (97.7%) were also highly used, indicating that teachers employ both traditional and digital instructional resources in teaching research.

The predominance of teachers who attended only 1-3 trainings may be explained by Vygotsky's Social Constructivist Theory, which emphasizes that professional learning develops through social interaction, collaboration, and guided experiences. With limited participation in training programs, teachers may have fewer

opportunities to engage in collaborative learning and acquire new instructional strategies for teaching research. This finding also supports Bandura's Social Cognitive Theory, which suggests that learning experiences strengthen teachers' self-efficacy and confidence in performing instructional tasks. Likewise, Olvido et al. (2024) emphasized that professional development enhances teachers' instructional competence and research capability.

The instructional materials used by research teachers are presented in Table 6.

Table 6 Instructional Materials Used by Teachers in Teaching Research

Instructional Materials	Frequency (n=917)	Percentage
Printed modules	896	97.7
Research textbooks	917	100.0
PowerPoint presentations	917	100.0
Teacher-made handouts	483	52.7
Online resources (websites, e-books, journals)	425	46.3
Learning Management System (e.g., Google Classroom)	917	100.0
Video lessons	913	99.6
Sample research papers	917	100.0
Statistical software or tools (e.g., Excel, SPSS)	503	54.9

As presented in Table 7, all identified teaching strategies were utilized by the respondents, with each obtaining a frequency of 917 (100.0%).

These findings imply that research teachers adopt a combination of instructional approaches to address students' diverse learning needs and enhance research instruction.

The use of diverse teaching strategies may be explained by Vygotsky's Social Constructivist Theory, which emphasizes that meaningful learning occurs through interaction, guidance, and active participation. The findings also align with Lazarus and Folkman's Stress and Coping Theory, which suggests that teachers adopt adaptive strategies to respond effectively to classroom demands. Likewise, Flores and Cruz (2023) emphasized that appropriate teaching strategies enhance students' learning experiences and academic performance.

The strategies used by teachers in teaching research are presented in Table 7.

Table 7 Strategies Used by Teachers in Teaching Research

Strategies	Frequency (n=917)	Percentage
Direct Instruction (The teacher clearly explains research concepts, steps, and procedures through lectures and demonstrations.)	917	100.0
Collaborative Learning (Students work together in groups to discuss, plan, and complete research-related tasks.)	917	100.0
Hands-on Activities (Students actively engage in practical research tasks such as data collection, analysis, and writing.)	917	100.0
Use of Innovative Strategies (The use of creative or technology-based approaches to enhance research learning.)	917	100.0
Student-centered Strategies (Teaching methods that focus on active student participation and independent learning in research.)	917	100.0

As reflected in Table 8, respondents strongly agreed on the use of direct instruction in teaching research, with an overall mean of 3.84 (SD = 0.36).

These findings imply that teachers consistently provide structured guidance to help students understand research concepts and procedures.

The strong use of direct instruction may be explained by Vygotsky's Social Constructivist Theory, which emphasizes the teacher's role in providing scaffolding that supports students' learning. This finding also aligns with **Lazarus and Folkman's Stress and Coping Theory**, which suggests that teachers adopt effective instructional strategies to manage the complexities of research instruction. Likewise, **Stedy and Alfanta (2024)** emphasized that direct instruction improves student understanding through systematic teaching procedures.

The respondents' assessment of direct instruction as a teaching strategy is presented in Table 8.

Table 8 Assessment of the Respondents on Direct Instruction as a Teaching Strategy

Direct Instruction	Weighted Mean	Standard Deviation	Qualitative Description
As a Research Teacher, I...			
1. explain research concepts clearly through lectures.	3.81	0.39	Strongly Agree
2. present examples or case studies to demonstrate research methods.	3.84	0.37	Strongly Agree
3. use questioning techniques to check students' understanding during lessons.	3.87	0.33	Strongly Agree
4. summarize key points at the end of each lesson to reinforce learning.	3.76	0.43	Strongly Agree
5. provide structured outlines or handouts to guide student's learning.	3.91	0.29	Strongly Agree
Average	3.84	0.36	Strongly Agree
Legend: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Agree, 3.50-4.00 Strongly Agree			

As presented in Table 10, respondents strongly agreed on the use of hands-on activities in teaching research, with an overall mean of 3.83 (SD = 0.37).

These findings imply that teachers recognize the importance of experiential learning in developing students' research skills and understanding.

The strong use of hands-on activities may be explained by Vygotsky's Social Constructivist Theory, which emphasizes that learning is strengthened through active participation and authentic experiences. The findings also support Bandura's Social Cognitive Theory, which suggests that mastery experiences enhance learners' confidence and competence. Likewise, Dizon and Reyes (2024) emphasized that experiential learning improves student engagement and research competence.

The respondents' assessment of collaborative learning as a teaching strategy is presented in Table 9.

Table 9 Assessment of the Respondents on Collaborative Learning as a Teaching Strategy

Collaborative Learning	Weighted Mean	Standard Deviation	Qualitative Description
As a Research Teacher, I...			
1. facilitate group discussions to analyze research topics.	3.93	0.26	Strongly Agree
2. encourage peer review or collaborative problem-solving.	3.87	0.34	Strongly Agree
3. assign group tasks to develop teamwork and communication skills.	3.98	0.13	Strongly Agree
4. encourage students to present their research findings to the class.	3.75	0.43	Strongly Agree
5. monitor group dynamics to ensure equitable participation among members.	3.93	0.26	Strongly Agree
Average	3.89	0.28	Strongly Agree
Legend: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Agree, 3.50-4.00 Strongly Agree			

As presented in Table 10, respondents strongly agreed on the use of hands-on activities in teaching research, with an overall mean of 3.83 (SD = 0.37).

These findings imply that teachers recognize the importance of experiential learning in developing students' research skills and understanding.

The strong use of hands-on activities may be explained by Vygotsky's Social Constructivist Theory, which emphasizes that learning is strengthened through active participation and authentic experiences. The findings also support Bandura's Social Cognitive Theory, which suggests that mastery experiences enhance learners' confidence and competence. Likewise, Dizon and Reyes (2024) emphasized that experiential learning improves student engagement and research competence.

The respondents' assessment of hands-on activities as a teaching strategy is presented in Table 10.

Table 10 Assessment of the Respondents on Hands-on Activities as a Teaching Strategy

Hands-on Activities	Weighted Mean	Standard Deviation	Qualitative Description
As a Research Teacher, I...			
1. assign research projects for hands-on experience.	3.81	0.39	Strongly Agree
2. integrate real-life problems to apply research concepts.	3.84	0.37	Strongly Agree
3. conduct experiments or simulations to demonstrate research processes.	3.84	0.37	Strongly Agree
4. encourage students to collect and analyze their own data.	3.76	0.43	Strongly Agree
5. organize field visits or community-based research activities.	3.91	0.29	Strongly Agree
Average	3.83	0.37	Strongly Agree
Legend: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Agree, 3.50-4.00 Strongly Agree			

As reflected in Table 11, respondents strongly agreed on the use of innovative strategies in teaching research, with an overall mean of 3.84 (SD = 0.36).

These findings imply that teachers continuously adapt their instructional practices to meet students' diverse learning needs and improve research instruction.

The strong use of innovative strategies may be explained by Lazarus and Folkman's Stress and Coping Theory, which suggests that individuals adopt adaptive strategies to manage changing demands and challenges. The findings are also consistent with Vygotsky's Social Constructivist Theory, which emphasizes the effective use of instructional tools and guided learning experiences to promote meaningful learning. Likewise, Toquero and Capistrano (2024) emphasized that innovative teaching practices enhance student engagement and instructional effectiveness.

The respondents' assessment of the use of innovative strategies as a teaching strategy is presented in Table 11.

Table 11 Assessment of the Respondents on the Use of Innovative Strategies as a Teaching Strategy

Use of Innovative Strategies	Weighted Mean	Standard Deviation	Qualitative Description
As a Research Teacher, I...			
1. design research tasks that encourage students to ask questions, solve problems, and think critically.	3.81	0.39	Strongly Agree

2. use flipped or blended learning so students can study lessons in advance and actively participate during class.	3.84	0.37	Strongly Agree
3. connect research lessons to other subjects to make learning more meaningful and relevant.	3.87	0.33	Strongly Agree
4. adjust teaching strategies to support students with different research skills and learning needs.	3.76	0.43	Strongly Agree
5. use student performance data to improve instruction and better guide students in their research work.	3.91	0.29	Strongly Agree
Average	3.84	0.36	Strongly Agree
Legend: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Agree, 3.50-4.00 Strongly Agree			

As presented in Table 12, the respondents strongly agreed on the use of student-centered strategies in teaching research, with an overall mean of 3.89 (SD = 0.28). Among the indicators, using formative assessments to monitor students' progress obtained the highest mean ($M = 3.98$), while using reflective activities to help students evaluate their learning obtained the lowest mean ($M = 3.75$). Despite the variation in mean scores, all indicators were interpreted as strongly agree.

These findings imply that teachers consistently promote learner autonomy, active participation, and continuous feedback to enhance students' research learning and skill development.

The strong use of student-centered strategies may be explained by Bandura's Social Cognitive Theory, which suggests that learning is strengthened through active engagement, self-regulation, and the development of self-efficacy. By encouraging students to participate actively, monitor their own progress, and receive continuous feedback, teachers help build learners' confidence in conducting research and completing research tasks independently. This finding also supports Serrano and Dela Cruz (2022), who emphasized that learner-centered environments improve student engagement and academic performance.

Assessment of the Respondents on Student-Centered Strategies as a Teaching Strategy

Student-Centered Strategies	Weighted Mean	Standard Deviation	Qualitative Description
As a Research Teacher, I...			
1. provide facilitative and dialogic feedback to help students refine their research decisions and strategies through ongoing reflection.	3.93	0.26	Strongly Agree
2. encourage self-directed learning and independent research.	3.87	0.34	Strongly Agree
3. use formative assessments to monitor students' progress.	3.98	0.13	Strongly Agree
4. use reflective activities to help students evaluate their learning.	3.75	0.43	Strongly Agree
5. adapt teaching methods based on students' needs and learning styles.	3.93	0.26	Strongly Agree
Average	3.89	0.28	Strongly Agree
Legend: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Agree, 3.50-4.00 Strongly Agree			

As presented in Table 13, student-related challenges were generally perceived as very challenging, with an overall mean of 3.57 (SD = 0.65). Among the indicators, students' limited prior knowledge of research concepts obtained the highest mean ($M = 3.79$), while difficulty in data collection and analysis obtained the lowest mean ($M = 3.38$). Despite the differences in mean scores, all indicators were interpreted as very challenging.

These findings imply that teachers encounter substantial difficulties in addressing students' limited research readiness, particularly their insufficient foundational knowledge and motivation, which may affect the effectiveness of research instruction.

The observed pattern may be explained by Vygotsky's Social Constructivist Theory, which emphasizes that students require appropriate guidance and scaffolding to develop higher-order knowledge and skills. When learners have limited prior knowledge, teachers need to provide greater instructional support to help them accomplish complex research tasks. This finding also aligns with Lazarus and Folkman's Stress and Coping Theory, which suggests that demanding teaching situations require educators to adopt effective coping strategies to manage classroom challenges. Likewise, Tabalba and Paglinawan (2025) emphasized that students commonly experience difficulties in understanding research concepts and procedures.

Table 13 Student-Related Challenges Teachers Encounter in Teaching Research

Student-Related Challenges	Weighted Mean	Standard Deviation	Qualitative Description
1. Students have limited prior knowledge of research concepts.	3.79	0.45	Very Challenging
2. Students demonstrate low motivation to complete research assignments.	3.59	0.65	Very Challenging
3. Students struggle with critical thinking and analytical skills.	3.49	0.72	Moderately Challenging
4. Students have difficulty in data collection and analysis.	3.38	0.79	Moderately Challenging
5. Students fail to meet deadlines for research tasks.	3.63	0.67	Very Challenging
Average	3.57	0.65	Very Challenging
Legend: 1.00-1.49 Not Challenging at all, 1.50-2.49 Slightly Challenging, 2.50-3.49 Moderately Challenging, 3.50-4.00 Very Challenging			

As presented in Table 14, resource-related challenges were generally perceived as very challenging, with an overall mean of 3.57 (SD = 0.65). Among the indicators, the lack of sufficient textbooks, research journals, and reference materials obtained the highest mean ($M = 3.79$), while difficulty in finding relevant or updated research resources online obtained the lowest mean ($M = 3.37$). Despite the variation in mean scores, all indicators were interpreted as very challenging.

These findings imply that inadequate instructional and research resources continue to hinder the effective delivery of research instruction and limit teachers' ability to support students throughout the research process.

The observed pattern may be explained by Lazarus and Folkman's Stress and Coping Theory, which suggests that insufficient resources function as environmental stressors that increase work-related demands. When teachers have limited access to instructional materials and research references, they must exert additional effort and adopt coping strategies to maintain effective instruction. This finding also aligns with Vygotsky's Social Constructivist Theory, which emphasizes that appropriate learning tools and resources are essential in supporting meaningful learning and knowledge construction. Likewise, Olvido et al. (2024) emphasized that adequate instructional resources contribute to effective teaching and improved learning outcomes.

The resources-related challenges encountered by teachers in teaching research are presented in Table 14.

Table 14 Resources-Related Challenges Teachers Encounter in Teaching Research

Resources-Related Challenges	Weighted Mean	Standard Deviation	Qualitative Description
1. Lack of sufficient textbooks, research journals, or reference materials.	3.79	0.45	Very Challenging

2. Limited access to computers, software, or internet for research activities.	3.59	0.65	Very Challenging
3. Inadequate teaching aids or laboratory equipment for practical exercises.	3.49	0.72	Moderately Challenging
4. Difficulty in finding relevant or updated research resources online.	3.37	0.79	Moderately Challenging
5. Limited availability of research support materials in the school library.	3.63	0.67	Very Challenging
Average	3.57	0.65	Very Challenging
Legend: 1.00-1.49 Not Challenging at all, 1.50-2.49 Slightly Challenging, 2.50-3.49 Moderately Challenging, 3.50-4.00 Very Challenging			

As presented in Table 15, teacher-related challenges were generally perceived as very challenging, with an overall mean of 3.57 (SD = 0.65). Among the indicators, limited prior training or professional development in teaching research obtained the highest mean ($M = 3.79$), while limited support from school administration or colleagues obtained the lowest mean ($M = 3.37$). Despite the variation in mean scores, all indicators were interpreted as very challenging.

These findings imply that research teachers continue to face substantial challenges related to professional preparation and instructional responsibilities, which may affect the quality of research instruction.

The observed pattern may be explained by Lazarus and Folkman's Stress and Coping Theory, which suggests that inadequate professional preparation and increasing instructional demands function as stressors that require teachers to develop effective coping strategies. Limited training may reduce teachers' confidence in addressing the complexities of research instruction, while continuous professional development can strengthen their capacity to manage these challenges. This finding also supports Bandura's Social Cognitive Theory, which emphasizes that mastery experiences and continuous learning enhance teachers' self-efficacy and instructional competence. Likewise, Odanga and Aloka (2024) emphasized that professional responsibilities and workload influence teachers' instructional effectiveness and performance.

The teacher-related challenges encountered by teachers in teaching research are presented in Table 15.

Table 15 Teacher-Related Challenges Teachers Encounter in Teaching Research

Teacher-Related Challenges	Weighted Mean	Standard Deviation	Qualitative Description
1. Limited prior training or professional development in teaching Research.	3.79	0.44	Very Challenging
2. Difficulty adapting teaching methods to meet diverse student needs.	3.59	0.65	Very Challenging
3. Experiencing stress or burnout due to heavy workload.	3.49	0.72	Moderately Challenging
4. Limited support from school administration or colleagues.	3.37	0.79	Moderately Challenging
5. Difficulty in managing student behavior during research activities.	3.63	0.67	Very Challenging
Average	3.57	0.65	Very Challenging

Legend: 1.00-1.49 Not Challenging at all, 1.50-2.49 Slightly Challenging, 2.50-3.49 Moderately Challenging, 3.50-4.00 Very Challenging

As presented in Table 16, technology-related challenges were generally perceived as very challenging, with an overall mean of 3.60 (SD = 0.61). Among the indicators, technical difficulties in using online platforms or research software and difficulty in integrating technology into research instruction obtained the highest mean ($M = 3.79$), while inadequate access to virtual collaboration tools obtained the lowest mean ($M = 3.37$). Despite the variation in mean scores, all indicators were interpreted as very challenging.

These findings imply that integrating technology into research instruction remains a significant challenge for teachers, particularly in effectively utilizing digital tools and platforms to support student learning.

The observed pattern may be explained by Lazarus and Folkman's Stress and Coping Theory, which suggests that technological demands and limited digital resources function as work-related stressors that require teachers to adopt adaptive coping strategies. As teachers encounter technical difficulties and rapidly changing technologies, they need continuous support and professional development to manage these challenges effectively. This finding also aligns with Bandura's Social Cognitive Theory, which emphasizes that learning experiences and mastery of new skills strengthen teachers' self-efficacy and confidence in using technology for instruction. Likewise, Toquero and Capistrano (2024) emphasized that digital resources and technological support are essential in improving teaching and learning outcomes.

The technology-related challenges encountered by teachers in teaching research are presented in Table 16.

Table 16 Technology-Related Challenges Teachers Encounter in Teaching Research

Technology-Related Challenges	Weighted Mean	Standard Deviation	Qualitative Description
1. Technical difficulties in using online platforms or research software.	3.79	0.45	Very Challenging
2. Limited digital literacy among students and/or teachers.	3.59	0.65	Very Challenging
3. Unreliable internet connectivity for online research activities.	3.49	0.72	Moderately Challenging
4. Inadequate access to virtual collaboration tools.	3.37	0.79	Moderately Challenging
5. Difficulty in integrating technology effectively into research instruction.	3.79	0.44	Very Challenging
Average	3.60	0.61	Very Challenging
Legend: 1.00-1.49 Not Challenging at all, 1.50-2.49 Slightly Challenging, 2.50-3.49 Moderately Challenging, 3.50-4.00 Very Challenging			

As presented in Table 17, collaboration-related challenges were generally perceived as very challenging, with an overall mean of 3.57 (SD = 0.65). Among the indicators, lack of teamwork skills obtained the highest mean ($M = 3.79$), while conflicts among students that hinder collaboration obtained the lowest mean ($M = 3.37$). Despite the variation in mean scores, all indicators were interpreted as very challenging.

These findings imply that teachers experience considerable difficulty in promoting effective teamwork and collaboration, which may affect students' ability to accomplish research tasks successfully.

The observed pattern may be explained by Vygotsky's Social Constructivist Theory, which emphasizes that learning is enhanced through social interaction, collaboration, and guided participation. When students have

weak teamwork and communication skills, meaningful collaboration and knowledge construction become more difficult, increasing the challenges faced by teachers during research instruction. This finding also aligns with Lazarus and Folkman's Stress and Coping Theory, which suggests that interpersonal and classroom demands serve as stressors that require teachers to employ effective coping and management strategies. Likewise, Lin (2022) emphasized that classroom demands and interactional factors influence teachers' instructional experiences and practices.

The collaboration-related challenges encountered by teachers in teaching research are presented in Table 17.

Table 17 Collaboration-Related Challenges Teachers Encounter in Teaching Research

Collaboration-Related Challenges	Weighted Mean	Standard Deviation	Qualitative Description
1. Students experience difficulty coordinating with group members during research activities.	3.59	0.65	Very Challenging
2. Unequal participation among group members affects the quality of research outputs.	3.49	0.72	Moderately Challenging
3. Conflicts among students hinder effective collaboration in completing research tasks.	3.37	0.79	Moderately Challenging
4. Limited communication among group members delays the completion of research requirements.	3.63	0.67	Very Challenging
5. Lack of teamwork skills makes it challenging to implement collaborative research activities.	3.79	0.45	Very Challenging
Average	3.57	0.65	Very Challenging
Legend: 1.00-1.49 Not Challenging at all, 1.50-2.49 Slightly Challenging, 2.50-3.49 Moderately Challenging, 3.50-4.00 Very Challenging			

As presented in Table 18, training-related challenges were generally perceived as moderately challenging, with an overall mean of 3.50 (SD = 0.67). Among the indicators, limited school-sponsored seminars or workshops obtained the highest mean (M = 3.63), followed by limited access to research-related training programs (M = 3.59), both interpreted as very challenging. In contrast, the need for additional professional development in research obtained the lowest mean (M = 3.37). Despite the variation in mean scores, the overall results indicate that training-related concerns remain a challenge among research teachers.

These findings imply that while teachers recognize the importance of professional development, limited access to training opportunities and institutional support may hinder the continuous improvement of their research knowledge and instructional competence.

The observed pattern may be explained by Bandura's Social Cognitive Theory, which suggests that learning experiences and professional development strengthen teachers' self-efficacy and instructional competence. When opportunities for seminars and research-related training are limited, teachers have fewer mastery experiences that could enhance their confidence and effectiveness in teaching research. This finding also aligns with Lazarus and Folkman's Stress and Coping Theory, which suggests that inadequate professional support can become a work-related stressor, requiring teachers to rely on personal coping strategies to meet instructional demands. Likewise, Olvido et al. (2024) emphasized that professional development programs contribute to instructional competence and professional growth.

The training-related challenges encountered by teachers in teaching research are presented in Table 18.

Table 18 Training-Related Challenges Teachers Encounter in Teaching Research

Training-Related Challenges	Weighted Mean	Standard Deviation	Qualitative Description
1. Limited access to research-related training programs.	3.59	0.65	Very Challenging

2. Insufficient preparation for teaching research.	3.49	0.72	Moderately Challenging
3. Need for additional professional development in research.	3.37	0.79	Moderately Challenging
4. Limited school-sponsored seminars or workshops.	3.63	0.67	Very Challenging
5. Lack of specialized research training for teaching.	3.41	0.55	Moderately Challenging
Average	3.50	0.67	Moderately Challenging
Legend: 1.00-1.49 Not Challenging at all, 1.50-2.49 Slightly Challenging, 2.50-3.49 Moderately Challenging, 3.50-4.00 Very Challenging			

As presented in Table 19, the respondents strongly agreed on the use of collaboration as a coping intervention, with an overall mean of 3.90 (SD = 0.26). Among the indicators, consulting colleagues for advice and attending study groups or teacher learning communities obtained the highest mean (M = 3.98), while participating in peer mentoring or collaborative lesson planning obtained the lowest mean (M = 3.75). Despite the variation in mean scores, all indicators were interpreted as strongly agree.

These findings imply that research teachers consistently depend on professional collaboration and collegial support to address the challenges they encounter in teaching research and to improve their instructional practices.

The strong use of collaboration as a coping intervention may be explained by Vygotsky's Social Constructivist Theory, which emphasizes that learning and professional growth occur through social interaction, collaboration, and shared experiences. By consulting colleagues and participating in professional learning communities, teachers gain new knowledge, exchange effective practices, and strengthen their instructional competence. The findings also align with Lazarus and Folkman's Stress and Coping Theory, which suggests that seeking social support is an effective coping strategy for managing work-related demands and reducing professional stress. Likewise, Olvido et al. (2024) emphasized that professional collaboration enhances instructional effectiveness and supports teachers' professional growth.

The coping interventions employed by research teachers in terms of collaboration are presented in Table 19.

Table 19 Coping Interventions Research Teachers Employ to Overcome Challenges in Terms of Collaboration

Collaboration	Weighted Mean	Standard Deviation	Qualitative Description
As a Research Teacher, I...			
1. consult colleagues for advice or guidance in teaching Research.	3.98	0.13	Strongly Agree
2. participate in peer mentoring or collaborative lesson planning.	3.75	0.43	Strongly Agree
3. share teaching materials and resources with other teachers.	3.93	0.26	Strongly Agree
4. discuss teaching challenges with colleagues to find solutions.	3.87	0.34	Strongly Agree
5. attend study groups or teacher learning communities to improve practices.	3.98	0.13	Strongly Agree
Average	3.90	0.26	Strongly Agree
Legend: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Agree, 3.50-4.00 Strongly Agree			

As presented in Table 20, the respondents strongly agreed on the use of training-related coping interventions, with an overall mean of 3.85 (SD = 0.32). Among the indicators, seeking certifications or additional training related to research instruction obtained the highest mean (M = 3.98), while attending workshops, seminars, or webinars and engaging in continuous professional learning obtained the lowest means (M = 3.75). Despite the variation in mean scores, all indicators were interpreted as strongly agree.

These findings imply that research teachers actively pursue professional development opportunities to strengthen their knowledge, skills, and competence in teaching research.

The strong use of training-related coping interventions may be explained by Bandura's Social Cognitive Theory, which suggests that continuous learning and mastery experiences enhance teachers' self-efficacy and confidence in performing instructional tasks. By participating in training programs and pursuing professional development, teachers develop greater competence in addressing the demands of research instruction. The findings also align with Lazarus and Folkman's Stress and Coping Theory, which suggests that engaging in professional development is a problem-focused coping strategy that enables teachers to manage work-related challenges effectively. Likewise, Serrano and Dela Cruz (2022) emphasized that professional development activities improve instructional competence and teaching effectiveness.

The coping interventions employed by research teachers in terms of training are presented in Table 20.

Table 20 Coping Interventions Research Teachers Employ to Overcome Challenges in Terms of Training

Training	Weighted Mean	Standard Deviation	Qualitative Description
As a Research Teacher, I...			
1. attend workshops, seminars, or webinars on teaching Research.	3.75	0.43	Strongly Agree
2. enroll in courses to enhance research and teaching skills.	3.93	0.26	Strongly Agree
3. read journals or academic publications to update knowledge.	3.87	0.34	Strongly Agree
4. seek certifications or additional training related to research instruction.	3.98	0.13	Strongly Agree
5. engage in continuous professional learning to improve effectiveness.	3.75	0.43	Strongly Agree
Average	3.85	0.32	Strongly Agree
Legend: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Agree, 3.50-4.00 Strongly Agree			

As presented in Table 21, the respondents strongly agreed on the use of instructional adaptation as a coping intervention, with an overall mean of 3.89 (SD = 0.28). Among the indicators, providing additional explanations or examples for challenging concepts obtained the highest mean (M = 3.98), while designing activities that match students' skill levels and interests obtained the lowest mean (M = 3.75). Despite the variation in mean scores, all indicators were interpreted as strongly agree.

These findings imply that research teachers consistently modify their instructional practices to accommodate students' diverse learning needs and enhance their understanding of research concepts.

The strong use of instructional adaptation as a coping intervention may be explained by Vygotsky's Social Constructivist Theory, which emphasizes that effective learning occurs when teachers provide appropriate guidance and scaffolding based on learners' current level of understanding. By adapting instruction and providing additional support, teachers help students gradually develop the knowledge and skills needed to conduct research independently. The findings also align with Lazarus and Folkman's Stress and Coping Theory, which suggests that modifying instructional approaches is a problem-focused coping strategy that enables teachers to manage classroom challenges effectively. Likewise, Toquero and Capistrano (2024) emphasized that teachers' adaptability and creativity contribute to effective classroom instruction.

The coping interventions employed by research teachers in terms of instructional adaptation are presented in Table 21.

Table 21 Coping Interventions Research Teachers Employ to Overcome Challenges in Terms of Instructional Adaptation

Instructional Adaptation	Weighted Mean	Standard Deviation	Qualitative Description
As a Research Teacher, I...			
1. adjust lesson plans to align with students' research progress.	3.93	0.26	Strongly Agree
2. incorporate alternative teaching strategies for difficult topics.	3.87	0.34	Strongly Agree
3. provide additional explanations or examples for challenging concepts.	3.98	0.13	Strongly Agree
4. design activities that match students' skill levels and interests.	3.75	0.43	Strongly Agree
5. use flexible scheduling to accommodate students' research timelines.	3.93	0.26	Strongly Agree
Average	3.89	0.28	Strongly Agree
Legend: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Agree, 3.50-4.00 Strongly Agree			

As presented in Table 22, the respondents strongly agreed on the use of technology utilization as a coping intervention, with an overall mean of 3.88 (SD = 0.30). Among the indicators, incorporating multimedia resources to clarify complex research concepts and procedures obtained the highest mean ($M = 3.98$), while employing virtual collaboration tools to facilitate student group work obtained the lowest mean ($M = 3.75$). Despite the variation in mean scores, all indicators were interpreted as strongly agree.

These findings imply that research teachers consistently integrate digital technologies to enhance instruction and address the challenges encountered in teaching research.

The strong use of technology utilization as a coping intervention may be explained by Bandura's Social Cognitive Theory, which suggests that teachers develop greater self-efficacy as they gain mastery through successfully using instructional technologies. As teachers become more confident in integrating digital tools, they are better able to facilitate research learning and respond to instructional challenges. The findings also align with Lazarus and Folkman's Stress and Coping Theory, which suggests that technology integration is a problem-focused coping strategy that helps teachers manage instructional demands more effectively. Likewise, Theodorio et al. (2024) emphasized that technology integration enhances instructional effectiveness and promotes meaningful learning experiences.

The coping interventions employed by research teachers in terms of technology utilization are presented in Table 22.

Table 22 Coping Interventions Research Teachers Employ to Overcome Challenges in Terms of Technology Utilization

Technology Utilization	Weighted Mean	Standard Deviation	Qualitative Description
As a Research Teacher, I...			
1. use online platforms or digital tools to supplement and extend classroom instruction.	3.87	0.34	Strongly Agree
2. incorporate multimedia resources to clarify complex research concepts and procedures.	3.98	0.13	Strongly Agree
3. employ virtual collaboration tools to facilitate student group work.	3.75	0.43	Strongly Agree

4. use educational software for data analysis and research tasks.	3.93	0.26	Strongly Agree
5. create or share online tutorials to support independent student learning.	3.87	0.34	Strongly Agree
Average	3.88	0.30	Strongly Agree
Legend: 1.00-1.49 Strongly Disagree, 1.50-2.49 Disagree, 2.50-3.49 Agree, 3.50-4.00 Strongly Agree			

As presented in Table 23, most teaching strategies did not significantly differ according to the respondents' profile variables, as direct instruction, hands-on activities, and innovative strategies showed no significant differences across age, civil status, educational attainment, years of teaching experience, and number of trainings attended ($p > 0.05$). However, collaborative learning and student-centered strategies showed significant differences according to age and years of teaching research ($p < 0.05$).

These findings imply that research teachers generally employ similar teaching strategies regardless of their demographic characteristics. However, age and teaching experience may influence the implementation of collaborative and learner-centered approaches.

The observed pattern may be explained by Bandura's Social Cognitive Theory, which suggests that teachers develop self-efficacy through mastery experiences acquired over time. Similar levels of confidence and competence among teachers may explain the consistent use of direct instruction, hands-on activities, and innovative strategies across profile variables. In contrast, teachers with greater teaching experience may have accumulated more mastery experiences that enable them to implement collaborative and student-centered strategies more effectively. This finding also aligns with Vygotsky's Social Constructivist Theory, which emphasizes that collaborative learning and active student participation require teachers to facilitate meaningful interaction and provide appropriate guidance. Likewise, Flores and Cruz (2023) noted that instructional practices are generally consistent among teachers, while Lin (2022) emphasized that age and teaching experience influence the use of collaborative and student-centered strategies.

The significant differences in teaching strategies according to the respondents' profile are presented in Table 23.

Table 23 Significant Difference on the Strategies Used by the Teachers in Teaching Research when Grouped According to their Profile

Strategies	Profile				
	Age	Civil Status	Highest Educational Attainment	Number of Years as a Research Teacher in Public Senior High School	Number of Trainings Attended in Teaching Research in Public Senior High School for the Last Three (3) Years
Direct Instruction	0.225 NS	0.536 NS	0.745 NS	0.687 NS	0.888 NS
Collaborative Learning	0.048 S	0.532 NS	0.797 NS	0.024 S	0.872 NS
Hands-on Activities	0.211 NS	0.445 NS	0.750 NS	0.667 NS	0.816 NS
Use of Innovative Strategies	0.208 NS	0.502 NS	0.664 NS	0.742 NS	0.897 NS
Student-Centered Strategies	0.048 S	0.532 NS	0.797 NS	0.018 S	0.872 NS
Legend: Significant at $P < 0.05$					

As presented in Table 24, significant differences in collaborative learning and student-centered strategies were found according to age. Specifically, teachers aged 21–30 years differed significantly from those aged 41–50 years in their use of collaborative learning ($p = 0.041$) and student-centered strategies ($p = 0.011$).

These findings imply that teachers' age may influence the extent to which they implement interactive and learner-centered approaches in teaching research, reflecting differences in professional experience and instructional practices across age groups.

The observed pattern may be explained by Bandura's Social Cognitive Theory, which suggests that teachers develop greater self-efficacy through mastery experiences accumulated over time. As teachers gain experience, they become more confident in facilitating collaborative and student-centered learning activities that require effective classroom management and instructional flexibility. The findings also align with Vygotsky's Social Constructivist Theory, which emphasizes that collaborative interaction and active learner participation are essential for meaningful learning and require teachers to provide appropriate guidance and scaffolding. Likewise, Lin (2022) and Odanga and Aloka (2024) emphasized that teachers' experiences and professional backgrounds influence their instructional decisions and classroom practices.

The post hoc analysis of the significant differences in teaching strategies is presented in Table 24.

Table 24 Post Hoc Analysis on the Significant Difference on the Strategies Used by the Teachers in Teaching Research when Grouped According to their Profile

Strategies	P-Value
Collaborative Learning	
Age	
21-30 Years Old and 41-50 Years Old	0.041
Student-Centered Strategies	
Age	
21-30 Years Old and 41-50 Years Old	0.011
Legend: Significant at $P < 0.05$	

As presented in Table 25, the challenges encountered by research teachers significantly differed only according to highest educational attainment. Student-related, resource-related, teacher-related, technology-related, collaboration-related, and training-related challenges all showed significant differences based on educational attainment ($p < 0.05$). In contrast, no significant differences were found when respondents were grouped according to age, civil status, years as a research teacher, and number of trainings attended ($p > 0.05$).

These findings imply that teachers' educational qualifications influence how they perceive and respond to the challenges of teaching research, whereas the other profile variables have relatively little effect on these perceptions.

The observed pattern may be explained by Bandura's Social Cognitive Theory, which suggests that continuous learning and mastery experiences strengthen teachers' self-efficacy and instructional competence. Teachers with higher educational attainment are likely to have acquired more advanced research knowledge and skills, enabling them to better understand and manage the challenges associated with research instruction. The findings also align with Lazarus and Folkman's Stress and Coping Theory, which suggests that individuals' knowledge and available resources influence how they appraise and cope with work-related challenges. Likewise, Olvido et al. (2024) and Odanga and Aloka (2024) emphasized that higher educational attainment contributes to improved instructional competence and professional effectiveness.

The significant differences in the challenges encountered by teachers according to their profile are presented in Table 25.

Table 25 Significant Difference on the Challenges Encountered by the Teachers in Teaching Research when Grouped According to their Profile

Challenges	Profile				
	Age	Civil Status	Highest Educational Attainment	Number of Years as a Research Teacher in Public Senior High School	Number of Trainings Attended in Teaching Research in Public Senior High School for the Last Three (3) Years
Student-Related Challenges	0.352 NS	0.743 NS	0.006 S	0.931 NS	0.772 NS
Resources-Related Challenges	0.240 NS	0.752 NS	0.007 S	0.973 NS	0.851 NS
Teacher-Related Challenges	0.282 NS	0.756 NS	0.006 S	0.985 NS	0.855 NS
Technology-Related Challenges	0.275 NS	0.698 NS	0.008 S	0.838 NS	0.907 NS
Collaboration-Related Challenges	0.247 NS	0.756 NS	0.007 S	0.985 NS	0.881 NS
Training-Related Challenges	0.172 NS	0.627 NS	0.012 S	0.939 NS	0.840 NS
Legend: Significant at $P < 0.05$					

As presented in Table 26, significant differences in coping interventions were primarily associated with age and years of teaching experience. Collaboration and technology utilization significantly differed according to the number of years as a research teacher ($p < 0.05$). Likewise, training and instructional adaptation showed significant differences according to age and teaching experience ($p < 0.05$). In contrast, no significant differences were found based on civil status, highest educational attainment, and number of trainings attended ($p > 0.05$).

These findings imply that while research teachers generally employ similar coping interventions, age and teaching experience influence the extent to which they utilize collaboration, training, instructional adaptation, and technology to address the challenges of research instruction.

The observed pattern may be explained by Lazarus and Folkman's Stress and Coping Theory, which suggests that individuals develop coping strategies based on their experiences and appraisal of workplace demands. Teachers with greater teaching experience are more likely to have developed effective problem-focused coping strategies, such as collaborating with colleagues, adapting instructional practices, participating in professional development, and utilizing technology to address instructional challenges. The findings also align with Bandura's Social Cognitive Theory, which suggests that mastery experiences gained through years of teaching strengthen teachers' self-efficacy and confidence in selecting and applying effective coping interventions. Likewise, Odanga

and Aloka (2024) emphasized that teaching experience contributes to teachers' professional competence and ability to address workplace challenges.

The significant differences in coping interventions according to the respondents' profile are presented in Table 26.

Table 26 Significant Difference on the Coping Interventions Used by the Teachers in Teaching Research when Grouped According to their Profile

Coping Intervention	Profile				
	Age	Civil Status	Highest Educational Attainment	Number of Years as a Research Teacher in Public Senior High School	Number of Trainings Attended in Teaching Research in Public Senior High School for the Last Three (3) Years
Collaboration	0.061 NS	0.395 NS	0.668 NS	0.009 S	0.922 NS
Training	0.018 S	0.164 NS	0.616 NS	0.021 S	0.753 NS
Instructional Adaptation	0.048 S	0.532 NS	0.797 NS	0.018 S	0.872 NS
Technology Utilization	0.110 NS	0.547 NS	0.746 NS	0.024 S	0.929 NS
Legend: Significant at $P < 0.05$					

As presented in Table 27, the post hoc analysis revealed significant differences in training and instructional adaptation according to age. Specifically, significant differences were observed between teachers aged 21–30 years and those aged 41–50 years in training ($p = 0.041$) and instructional adaptation ($p = 0.021$).

These findings imply that teachers' age influences the coping interventions they employ, particularly in engaging in professional development and adapting instructional practices to meet the demands of research instruction.

The observed pattern may be explained by Bandura's Social Cognitive Theory, which suggests that teachers develop greater self-efficacy through continuous learning and mastery experiences accumulated over time. Teachers with more years of professional experience are likely to be more confident in adapting their instructional approaches and selecting appropriate professional development opportunities. The findings also align with Lazarus and Folkman's Stress and Coping Theory, which suggests that individuals' coping strategies evolve as

The post hoc analysis of the significant differences in coping interventions is presented in Table 27.

Table 27 Post Hoc Analysis on the Significant Difference on the Coping Interventions Used by the Teachers in Teaching Research when Grouped According to their Profile

Coping Intervention	P-Value
Training	
Age	
21-30 Years Old and 41-50 Years Old	0.041
Instructional Adaptation	
Age	
21-30 Years Old and 41-50 Years Old	0.021
Legend: Significant at $P < 0.05$	

As presented in Table 28, the results revealed a significant moderate relationship between the strategies used and the challenges encountered by teachers in teaching research ($r = 0.450$, $p = 0.000$). Since the computed p-value was less than 0.05, the null hypothesis was rejected, indicating that the challenges experienced by teachers are significantly associated with the instructional strategies they employ.

These findings imply that as teachers encounter greater challenges in teaching research, they tend to adjust and modify their instructional strategies to respond more effectively to classroom demands.

The observed relationship may be explained by Lazarus and Folkman's Stress and Coping Theory, which suggests that individuals evaluate the demands they encounter and adopt appropriate coping strategies to manage them. In the context of research instruction, teachers respond to student-, resource-, and technology-related challenges by selecting instructional approaches that best address these difficulties. The findings also align with Vygotsky's Social Constructivist Theory, which emphasizes that teachers continuously adjust instructional support and learning experiences to meet students' needs and facilitate meaningful learning. Likewise, Flores and Cruz (2023) emphasized that classroom conditions and professional experiences influence teachers' instructional practices, while Odanga and Aloka (2024) noted that instructional challenges shape teaching decisions and classroom practices.

The significant relationship between the strategies and challenges encountered by teachers in teaching research is presented in Table 28.

Table 28 Significant Relationship Between the Strategies and Challenges Encountered by the Teachers in Teaching Research

Strategies	Challenges			
	Pearson r	Qualitative Description	P-Value	Remarks
	0.450	Moderate Relationship	0.000	Significant

Legend: 0 No Relationship, ± 0.01 - ± 0.20 Negligible Relationship, ± 0.21 - ± 0.40 Low Relationship, ± 0.41 - ± 0.70 Moderate Relationship, ± 0.71 - ± 0.90 High Relationship, ± 0.91 - ± 0.99 Very High Relationship, ± 1.00 Perfect Relationship, *Significant at $P < 0.05$

Table 29 presents the proposed action plan formulated to address the major challenges encountered by teachers in teaching research in public stand-alone senior high schools. The plan identifies the specific objectives, activities or strategies, responsible persons, expected outputs, and implementation timelines to minimize the difficulties experienced by research teachers and improve the quality of research instruction.

The top 1 challenge identified was student-related challenges. The proposed interventions include conducting remedial research classes, providing structured research guides, implementing peer tutoring, and facilitating scaffolded writing activities. These strategies aim to improve students' understanding of research concepts, enhance motivation, strengthen research skills, and increase the completion of research requirements. Through these interventions, students are expected to demonstrate improved performance and greater engagement in research activities.

The top 2 challenge was resource-related challenges. To address this concern, the action plan emphasizes strengthening library resources, providing access to online journals and research materials, and improving ICT and internet facilities. These initiatives are intended to ensure the availability and accessibility of relevant instructional resources that support both teachers and students in conducting research activities effectively.

The top 3 challenge involved teacher-related challenges. In response, the proposed activities include conducting INSET trainings, mentoring programs, Learning Action Cell (LAC) sessions, and workload management seminars. These interventions aim to improve teachers' research competencies, instructional practices, and professional confidence while reducing work-related difficulties and instructional stress.

Meanwhile, the top 4 challenge was technology-related challenges. To overcome these difficulties, the action plan proposes digital literacy training, improved utilization of learning management systems, and the provision of research-related software and technological tools. These interventions are expected to enhance teachers' and students' ability to integrate technology effectively into research instruction.

The findings imply that the implementation of the proposed action plan may help minimize the identified challenges encountered by research teachers. Through the collaborative efforts of school administrators, research coordinators, ICT personnel, and teachers, the proposed interventions may strengthen coping mechanisms, improve instructional effectiveness, and enhance the overall quality of research education in public stand-alone senior high schools.

This proposed action plan is supported by the study of Olvido et al. (2024), who emphasized that professional support systems, instructional resources, and continuous development programs contribute significantly to teachers' effectiveness and instructional performance. Similarly, Toquero and Capistrano (2024) highlighted the importance of technological support, professional development, and institutional assistance in improving teaching practices and educational outcomes. These findings suggest that coordinated interventions and school support mechanisms are essential in addressing the challenges encountered by teachers teaching research.

Challenge	Objective	Activities/ Interventions	Beneficiaries	Persons Responsible	Logistics/ Source of Funds	Timeline	Success Indicator	Means of Verification
Student-Related Challenges	To improve students' research knowledge, motivation, and completion of research requirements	Conduct weekly remedial research sessions every Friday ; implement peer tutoring; provide scaffolded writing activities and structured research guides	Grade 11 and Grade 12 research students with low research performance	Research Teachers, Research Coordinator	Printing of modules, research guides, and materials through School Maintenance and Other Operating Expenses (MOOE) and Parent-Teacher Association (PTA) support	August - October (First Quarter) and January-March (Third Quarter)	At least 85% of students submit research outputs on time and 20% increase in research performance scores	Research grades, attendance sheets, submission monitoring records, pretest-posttest results
Resource-Related Challenges	To improve the availability and accessibility of research resources	Procure updated research books, provide access to online journals, establish digital research corner, strengthen library and ICT facilities	Research teachers and students	School Head, Librarian, ICT Coordinator	School MOOE, and donations from stakeholders and Local Government (LGU) support	June - August procurement; monitoring throughout school year	90% availability of required research materials and increased library utilization	Inventory reports, library utilization logs, ICT monitoring reports

Teacher-Related Challenges	To strengthen teachers' competence and reduce instructional difficulties	Conduct quarterly In-Service Training (INSET), mentoring sessions, Learning Action Cell (LAC) activities, and research capability training	Research teachers	School Head, Master Teachers, Division Trainers	INSET funds, School MOOE, Division training funds	July, October, January, and April	100% participation of research teachers and 20% improvement in instructional competency ratings	Training certificates, classroom observations, evaluation forms, Individual Performance Commitment and Review Form (IPCRF) results
Technology-Related Challenges	To improve ICT integration in research instruction	Conduct digital literacy training; orientation on LMS and research software; provide access to online research tools	Research teachers and students	ICT Coordinator, School Head	ICT funds, School MOOE, DepEd ICT resources	September–November with monthly monitoring	At least 85% of teachers integrate ICT tools in research instruction	ICT competency assessment, Learning Management System (LMS) reports, classroom observations

Table 30 presents the action plan formulated to strengthen and sustain the coping interventions employed by teachers in teaching Research in senior high schools. The action plan focuses on enhancing teachers' coping mechanisms through collaboration, training, instructional adaptation, and technology utilization to address the challenges encountered in research instruction.

The first coping intervention focuses on collaboration, which addresses both student-related and teacher-related challenges. The proposed activities include peer mentoring, collaborative lesson planning, Learning Action Cell (LAC) sessions, and participation in Professional Learning Communities (PLCs). These interventions encourage the sharing of best practices, strengthen professional support networks, and improve instructional effectiveness in teaching research.

The second intervention centers on training, which addresses teacher-related challenges through capacity-building activities such as seminars, workshops, webinars, INSET programs, research conferences, and postgraduate studies. These professional development opportunities aim to improve teachers' research competencies, instructional skills, and confidence in teaching research subjects.

The third intervention emphasizes instructional adaptation, which primarily addresses student-related challenges. The proposed strategies include differentiated instruction, scaffolded learning activities, structured research guides, remedial classes, and the integration of real-life research situations. These approaches are expected to improve student engagement, understanding, and performance in research tasks.

Meanwhile, the fourth intervention focuses on technology utilization, which addresses technology-related and resource-related challenges. The action plan includes digital literacy training, improved use of Learning Management Systems (LMS), utilization of research software, and increased access to online learning resources. These initiatives aim to strengthen teachers' ICT competencies and enhance the delivery of research instruction.

Furthermore, continuous professional learning supports all identified challenges by encouraging teachers to engage in self-directed learning, certification programs, graduate studies, and research-related activities. These initiatives promote lifelong learning and sustain professional growth among research teachers.

The findings imply that the proposed action plan may strengthen teachers' coping interventions, improve their ability to manage instructional challenges, and enhance the effectiveness of research instruction in senior high schools. Through the collaborative efforts of school administrators, research coordinators, ICT personnel, and teachers, the proposed interventions are expected to promote professional growth, instructional innovation, and improved student outcomes.

This finding is supported by the study of Olvido et al. (2024), who emphasized that continuous professional development and collaborative support systems contribute significantly to teachers' instructional competence and effectiveness. Similarly, Flores and Cruz (2023) highlighted that professional learning opportunities and collegial support enhance teachers' resilience and instructional practices. Moreover, Toquero and Capistrano (2024) stressed the importance of technology integration and continuous learning in improving teaching effectiveness and educational outcomes. These studies suggest that sustained coping interventions and professional support mechanisms are essential in strengthening research instruction in senior high schools.

Coping Intervention	Objective	Activities/ Strategies	Persons Responsible	Resources/ Source of Funds	Timeline	Expected Outcome	Performance Indicator	Means of Verification
Collaboration	To strengthen professional collaboration among research teachers	Conduct monthly Professional Learning Community (PLC) meetings, peer mentoring, and collaborative lesson planning sessions	School Head, Research Coordinator, Master Teachers	School Maintenance and Other Operating Expenses (MOOE), meeting materials, training funds	Last Friday of every month	Improved sharing of instructional practices and stronger collegial support	At least 90% teacher participation in collaborative activities	Attendance sheets, meeting minutes, teacher feedback forms
Training	To sustain teachers' professional development in research instruction	Conduct In-Service Training (INSET), webinars, research conferences, graduate studies encouragement, and LAC sessions	School Administration, Division Trainers, Research Coordinators	INSET funds, School MOOE, scholarship grants	Quarterly throughout the school year	Enhanced research competence and instructional effectiveness	At least 80% of teachers attend professional development activities	Certificates, training reports, competency assessments
Instructional Adaptation	To improve teachers' ability to address diverse learner needs	Implement differentiated instruction, scaffolded activities, remedial sessions, and structured research guides	Research Teachers, Subject Coordinators	Modules, worksheets, printing funds from School MOOE	Weekly throughout the school year	Increased student engagement and improved research performance	At least 85% completion of research requirements	Student grades, rubrics, class records
Technology Utilization	To strengthen ICT integration in research instruction	Provide digital literacy workshops, LMS utilization training, and orientation on research software	ICT Coordinator, School Head	ICT funds, software subscriptions, internet support	Monthly from September to February	Improved technology integration and research instruction delivery	At least 85% of teachers regularly use ICT tools	Learning Management System (LMS) reports, ICT monitoring forms, classroom observations
Continuous Professional Learning	To sustain lifelong learning among teachers	Encourage postgraduate studies, certification programs, research presentations, and publication activities	School Administration, Research Coordinator	Scholarship grants, personal and institutional funding	Whole school year	Increased participation in advanced studies and research activities	At least 50% of teachers engage in professional learning activities	Enrollment records, certificates, research outputs

Coping Intervention	Objective	Activities/Strategies	Persons Responsible	Resources/Source of Funds	Timeline	Expected Outcome	Performance Indicator	Means of Verification
Collaboration	To strengthen professional collaboration among research teachers	Conduct monthly Professional Learning Community (PLC) meetings, peer mentoring, and collaborative lesson planning sessions	School Head, Research Coordinator, Master Teachers	School Maintenance and Other Operating Expenses (MOOE), meeting materials, training funds	Last Friday of every month	Improved sharing of instructional practices and stronger collegial support	At least 90% teacher participation in collaborative activities	Attendance sheets, meeting minutes, teacher feedback forms
Training	To sustain teachers' professional development in research instruction	Conduct In-Service Training (INSET), webinars, research conferences, graduate studies encouragement, and LAC sessions	School Administration, Division Trainers, Research Coordinators	INSET funds, School MOOE, scholarship grants	Quarterly throughout the school year	Enhanced research competence and instructional effectiveness	At least 80% of teachers attend professional development activities	Certificates, training reports, competency assessments
Instructional Adaptation	To improve teachers' ability to address	Implement differentiated instruction, scaffolded activities, remedial	Research Teachers,	Modules, worksheets, printing funds	Weekly throughout	Increased student engagement and	At least 85% completion of	Student grades,

CONCLUSION

Based on the findings of the study, the researcher concludes that research teachers in public stand-alone senior high schools are diverse in terms of age, civil status, educational attainment, teaching experience, and training exposure. Teachers consistently utilize various teaching strategies such as direct instruction, collaborative learning, hands-on activities, innovative strategies, and student-centered approaches, which contribute to effective research instruction and the development of students' research competencies. However, teachers continue to encounter challenges related to students, resources, professional training, technology, and collaboration, which affect the teaching and learning process. To address these difficulties, teachers employ coping interventions such as collaboration, training, instructional adaptation, and technology utilization, demonstrating resilience and adaptability in teaching research. The findings further reveal that age, teaching experience, and educational attainment influence certain teaching strategies, challenges, and coping interventions. Moreover, a moderate positive relationship exists between teaching strategies and challenges encountered, indicating that teachers strengthen and adjust their instructional practices in response to difficulties. Finally, the proposed action plans emphasize the importance of improving student support, teacher development, resource availability, collaboration, and technology integration to enhance research instruction and promote better learning outcomes in senior high schools.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the researcher recommends that teachers continuously pursue professional development through advanced studies, seminars, and specialized training to strengthen their competence in teaching research. Teachers are likewise encouraged to sustain the use of diverse teaching strategies such as direct instruction, collaborative learning, hands-on activities, innovative strategies, and student-centered approaches to improve research instruction. They should continue utilizing coping interventions including collaboration, training, instructional adaptation, and ICT integration and make use of the proposed action plan to address instructional challenges. Students are encouraged to actively participate in research activities to improve their research skills, critical thinking, and academic performance, while parents are encouraged to provide academic support and maintain communication with teachers. School administrators should strengthen instructional support by providing adequate resources, digital tools, and professional development opportunities while promoting collaborative programs such as mentoring and professional learning communities. Curriculum planners are encouraged to further enhance the research curriculum to ensure alignment with students' needs and 21st-century skills. Likewise, policymakers and the Department of Education

may strengthen policies on teacher training, ICT integration, and resource allocation to improve research instruction. The community may benefit from producing research-oriented learners who can contribute to informed decision-making and community development. Finally, future researchers are encouraged to use the findings of this study as a basis for further investigations on research instruction and related variables.

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