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Non-Specialized Teacher Preparedness and Adaptive Strategies: Basis for Professional Enhancement Plan

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ABSTRACT: This study focused on non-specialized teachers' preparedness and adaptive strategies. It examined the relationship between non-specialized teachers' preparedness and adaptive strategies and identified which of the dimensions of the independent variable affect the teachers' adaptive strategies in the Division of Bukidnon for School Year 2025-2026. The study employed both correlational and causal research designs. The sample size was determined using the **S**elect Statistical Service Calculator, applying a 95% confidence level and a 3% margin of error. A total of 106 non-specialized teachers from the District of Manolo Fortich, Division of Bukidnon participated in the study, selected through stratified random sampling. An adapted questionnaire which passed the validity and reliability tests was used. Statistical tools like Mean, Standard Deviation, Spearman Rho and Simple and Multiple Linear Regression were employed. Findings revealed that Non-specialized teacher preparedness is high and the adaptive strategies of non-specialized teachers is also high. There is a significant relationship between non-specialized teacher preparedness and adaptive strategies. Moreover, teaching methods and learning resources are strong predictors of teachers' adaptive strategies. The study concludes that non-specialized teachers are prepared even though they are teaching subjects outside their specialization and teacher preparedness is associated with adaptive strategies. Thus, school administrators may strengthen continuous teaching support and make sure that there are sufficient learning resources available to help non-specialized teachers.

KEYWORDS: adaptive strategies, content knowledge, non-specialized teacher preparedness, teaching methods

I. INTRODUCTION

Teachers' role is significant in molding the intellectual, emotional, and social development of students (Sánchez-Monge et al., 2025). However, with the fast-changing demand for teachers and the shortage of specialists in various subject areas, school heads tend to assign teaching loads to non-specialized teachers. This trend has brought into focus the challenges and adaptive strategies governed by teachers.

On a global scale, the issue of teacher preparedness and out-of-field teaching has also become a pressing concern, particularly in developing and developed countries alike. International studies reveal that teachers assigned outside their areas of expertise often face barriers in content mastery, instructional delivery, and student engagement, which directly impact educational quality and learning equity (Darling-Hammond & Oakes, 2021). This highlights the universal nature of the problem and reinforces the urgency of equipping teachers with adaptive strategies and professional development opportunities that ensure quality teaching across disciplines.

Non-specialized teachers, who are assigned to subjects outside their area of specialization, face unique challenges in ensuring instructional quality and student achievement. Preparedness among these teachers is vital, as it reflects their ability to manage unfamiliar content, align with curriculum standards, and deliver lessons effectively despite limited background knowledge. Study emphasizes that teacher preparedness not only influences classroom confidence but also significantly affects long-term retention and instructional outcomes (Viviani et al., 2023).

Adaptive strategies help teachers to cope with the demands of teaching outside their specialization, non-specialized teachers develop that enable them to respond flexibly to instructional challenges. These strategies include engaging in professional development, collaborating with colleagues, utilizing digital resources, and employing reflective practices to

continuously improve their teaching. Such adaptive approaches are essential for sustaining teacher resilience, maintaining student engagement, and addressing gaps in content mastery (Saldivar, 2023).

In addition, according to Villano-Ac (2024), teachers who experience teaching out of their field emerged challenging difficulty. This challenge results to adjusting to academic content of the subject, addressing students' queries, and establishing authority and difficulty in applying specific approaches. With these challenges it only shows that teachers may feel uncomfortable and not prepared of the lessons and even develop low confidence in managing the students.

Consequently, non-specialized teachers who teach outside their area of expertise use adaptive strategies to help teachers change their teaching methods to address different student needs and handle various challenges. To address these challenges, integrating technology into their lessons, project-based learning, adjust instruction to meet the needs of students, and peer-assisted learning are employed. This flexibility allows teachers to keep the quality of their instruction high, even when they are teaching a subject that is not their field (Bagay, 2024).

Additionally, there is a clear gap in understanding how different types of preparedness specifically in terms of content knowledge, teaching strategies, and learning resources often relates to the level of confidence and teaching efficacy of non-specialized teachers. Little is known about which coping strategies lead to better outcomes in fostering teacher peer support, self-directed learning, and collaborative expertise, particularly when teaching subjects outside their specialization. Addressing this gap, the present study investigates the preparedness level of non-specialized teachers and identifies the coping mechanisms they employ in teaching subjects outside their specialization (Edulan et al., 2024).

Furthermore, Cinadre (2023) as well as Alog and Oco (2025) highlighted the importance of teacher to possess mastery of content knowledge and pedagogical skills by using varied teaching strategies. Non-Specialized teachers may be struggling at first to apply effective pedagogies, especially when unfamiliar with the common misconceptions and difficulties in the subject area. However, the ability of teachers to modify their methods based on student needs, feedback and curriculum demand is a key indicator of both preparedness and resilience.

Thus, the researcher aimed to examine the relationship between non-specialized teachers' preparedness and their adaptive strategies. The study ascertained the extent of non-specialized teachers' preparedness and their level of adaptive strategies. Moreover, it also examined which dimensions of the independent variable singly or in combination predicted the level of non-specialized teachers' adaptive strategies.

This study was anchored on the Job Demands-Resources (JD-R) Theory by Bakker and de Vries (2022). This theory asserts that each occupation has its own specific demands and resources, which shapes the level of stress and overall performance. This study explored the preparedness and adaptive strategies of non-specialized teacher educators assigned to teach subjects outside their major field.

One of the core demands faced by non-specialized teachers is the lack of content knowledge in the subjects they are required to teach. This pointed out that teacher without sufficient content knowledge struggle when teaching outside of their field. As to the framework, this gap likely pertained to cognitive and emotional problems that affect the quality of instruction. The teacher may experience insecurities, decreased its confidence and lower students' engagement if lack of mastery in the content. To reduce this demand, job resources like collaborative expertise and peer support become important (Ross & Hobbs, 2024).

Lep et al. (2023) highlighted that engagement in peer support, self-directed learning, and collaborative expertise reflects the deployment and enrichment of social and personal resources. These strategies facilitate job crafting, adaptability, and professional learning. It is considered a set of **job and personal resources** that strengthens teachers' ability to manage instructional demands. When non-specialized teachers possess adequate preparedness, they are more capable of handling role challenges, reducing stress, and improving student learning outcomes. Thus, this reinforces the motivational process and enhancing teachers' resilience to demands.

On the other hand, **adaptive strategies** such as **peer support, self-directed learning, and collaborative expertise** serve as essential **personal and social resources** that allow teachers to cope with shifting instructional demands. These strategies not only expand teachers' professional knowledge but also create opportunities for resilience and sustainable engagement in the profession. Evidence shows that adaptive behaviors such as collaboration and self-learning foster resource accumulation and buffer against negative job demands (Granziera et al., 2021).

Integrating preparedness and adaptive strategies align with the concept of a **resource-gain cycle**, where initial resources such as training and knowledge foster the development of additional resources like collaboration and adaptive expertise. This reciprocal process highlights the importance of strengthening both preparedness and adaptability to achieve long-term teacher engagement and effectiveness. Thus, the JD-R framework provides the theoretical basis for designing a **professional development plan** that equips non-specialized teachers to thrive despite the challenges of teaching outside their specialization (Robelski et al., 2025).

II. METHODOLOGY

The study used correlational and causal research designs to examine the non-specialized teachers' preparedness and adaptive strategies. Correlational designs are especially useful in education research when variables occur naturally and experimental manipulation would be impractical or unethical. Moreover, this non-experimental approach enables the researcher to describe, predict, and guide theory or intervention development by identifying whether more prepared teachers are more likely to adopt effective adaptive strategies (Gamboa & Quicho, 2024).

In addition, the study used a causal design to assess which dimensions predict singly or in combination the level of adaptive strategies. A causal design is selected when the researcher seeks to determine whether changes in one variable such as teacher preparedness. It will lead to changes in another variable like adaptive strategies thereby establishing a cause-and-effect relationship under controlled conditions (Qualtrics, 2023).

III. RESULTS AND DISCUSSION

Problem 1. What is the extent of non-specialized teacher preparedness in terms of:

1.1 content knowledge;

1.2 teaching methods; and

1.3 learning resources?

Table 1. Summary Table of Non-Specialized Teacher Preparedness

Dimension	Mean	SD	Description
Content Knowledge	4.08	0.79	Highly Prepared
Teaching Methods	4.17	0.73	Highly Prepared
Learning Resources	4.14	0.76	Highly Prepared
Overall	**4.13**	**0.76**	**Highly Prepared**

Note: 4.21-5.00 Very Highly Prepared; 3.41-4.20 Highly Prepared; 2.61-3.40 Moderately Prepared; 1.81-2.60 Less Prepared; 1.00-1.80 Least Prepared

Table 1 shows the summary of preparedness of non-specialized teachers across the three variables. The overall Mean is 4.13 with SD= 0.76, which is qualitatively described as Highly Prepared. This suggests that non-specialized teachers feel confident in teaching subjects outside their primary area of specialization. Their readiness indicates that they possess a good understanding of essential subject content, apply appropriate teaching strategies, and utilize relevant learning resources to support instruction. The high preparedness rating may be attributed to several factors that support teachers in performing their roles effectively. Teachers develop sufficient content understanding through self-study, reviewing instructional materials, and consulting curriculum guides, which helps them grasp the fundamental concepts of the subject they teach. Pedagogical competence also allows them to employ effective teaching strategies, classroom management techniques that facilitate student understanding even when the subject is outside their specialization. Available instructional resources and participating professional development activities also contribute to teachers' preparedness teaching outside their specialization The findings indicate that teachers can meet instructional demands, maintain teaching quality, and ensure learning continues despite challenges. This supports the study by König et al. (2021), which noted that teacher readiness, particularly in teaching strategies and resource utilization, is crucial for effective instruction across different subject areas.

Teaching Methods scored the highest Mean of 4.17 with SD=0.73, qualitatively described as Highly Prepared. This shows that non-specialized teachers feel most confident using various teaching strategies, learner-centered approaches, and adaptive techniques. Their strong performance in this area suggests that good teaching skills can make up for any gaps in subject knowledge. This allows them to engage students effectively and improve understanding. This finding aligns with the study of McKellar et al. (2020), which pointed out that teachers' strategies and classroom practices greatly impact students' academic engagement and successful knowledge transfer. Effective teaching methods encourage active participation, critical thinking, and meaningful learning experiences.

Learning Resources scored a Mean of 4.14 with SD= 0.76, also qualitatively described as Highly Prepared. This means that non-specialized teachers can effectively choose, adjust, and use teaching materials to support learning. The result indicates that these teachers are resourceful, using digital platforms, multimedia materials, textbooks, and self-made resources to improve lesson delivery. This finding is supported by Trust et al. (2020), study which highlighted that access to diverse, high-quality learning

materials allows teachers to craft more engaging and flexible lessons, especially when teaching outside their area of expertise. Using learning resources well helps clarify difficult concepts, boost student engagement, and cater to different learning styles. This enhances the overall teaching process. Learning resources are vital for both teachers and students, providing structure, visual support, and real-world context that deepen understanding.

In contrast, Content Knowledge had the lowest Mean at 4.08 with SD= 0.79, still qualitatively described as Highly Prepared. This lower mean indicates that while non-specialized teachers have a good understanding of the subject, content mastery is more challenging than teaching methods and resource use. Teaching outside their specialization may require more preparation, ongoing learning, and consulting resources to ensure concepts are accurate and clear. Still, strong content knowledge is essential for effective teaching, as it influences teachers' confidence and credibility in the classroom. Shulman and Wilson (2022) study supports this view, stressing that ongoing professional learning is key for improving teachers' content understanding, especially when they teach outside their specialty.

Problem 2. What is the level of non-specialized teacher adaptive strategies in terms of:

2.1 peer support;

2.2 self-directed learning; and

2.3 collaborative expertise?

Table 2. Summary Table of Adaptive Strategies

Dimension	Mean	SD	Description
Peer Support	4.18	0.77	High
Self-Directed Learning	4.16	0.72	High
Collaborative Expertise	4.16	0.80	High
Overall	**4.17**	**0.77**	**High**

Note: 4.21-5.00 Very High 3.41-4.20 High 2.61-3.40 Moderate 1.81-2.60 Low 1.00-1.80 Very Low

Table 2 presents the summary result of non-specialized teacher adaptive strategies. It has an overall M ean of 4.17 and SD = 0.77, qualitatively described as High. This implies that non-specialized teachers often resort to adaptive strategies to deal with teaching challenges despite the fact that they are not specialized in the area they teach. The high mean value reveals that teachers make efforts to improve their competency, effectiveness, and confidence by engaging in collaboration, self-initiative, and professional interaction. Adaptive strategies are important for non-specialized teachers since they enable them to be flexible in their teaching methods, foster continuous professional development, and ensure that students continue to acquire quality education despite the limitations in the context and profession.

This is in line with Darling-Hammond et al. (2020), who highlighted the importance of adaptive expertise in the teaching profession in maintaining quality teaching, especially when teachers are required to teach outside their area of specialization.

Peer Support has the highest Mean of 4.18 with an SD of 0.77, which is qualitatively described as High. This finding indicates that non-specialized teachers are highly dependent on their colleagues for teaching guidance, emotional support, and sharing of teaching resources. Peer support is a crucial aspect that helps in developing collective problem-solving, overcoming professional isolation, and boosting teaching confidence. By means of mentoring, team teaching, and consulting, teachers are able to overcome content and classroom-related challenges more effectively. This finding is in line with the study conducted by Vangrieken et al. (2021), which revealed that collaborative environments and peer interactions have a significant impact on improving teachers' instructional adaptability, job satisfaction, and professional resilience. Peer interactions enable teachers to benefit from each other's experiences and develop a sense of shared responsibility for teaching and learning.

The variable Self-Directed Learning had a Mean of 4.16 with an SD of 0.72, qualitatively described as High. This indicates that non-specialized teachers are actively involved in self-directed learning activities such as reading professional literature, participating in webinars, and browsing online resources to enhance their subject matter knowledge and teaching capabilities. Self-directed learning indicates that teachers are internally motivated to overcome their professional weaknesses and remain effective in the classroom. Self-directed learning enables teachers to assume control of their professional development and keep pace with the changing demands of the curriculum and teaching practices. This result is in line with the findings of Trust et al. (2020), who highlighted that teachers' engagement in self-directed professional learning improves their instructional effectiveness, flexibility, and lifelong learning capabilities, particularly in situations that demand flexibility and continuous upskilling.

Lastly, Collaborative Expertise scored a Mean of 4.16 with SD= 0.80, qualitatively described also as High. This shows that non-specialized teachers often engage in professional learning communities, collaborative lesson planning, and shared decision-making activities to enhance teaching practices. Collaborative expertise enables teachers to tap into their collective knowledge, improve teaching practices, and achieve subject and grade-level instructional coherence. This practice enhances teaching consistency and fosters shared accountability for student results. This finding is consistent with the views of Hargreaves & O'Connor (2021), study which claimed that collaborative professionalism improves teachers' instructional effectiveness by promoting shared expertise, reflective conversations, and continuous improvement. Collaborative expertise is very valuable for non-specialized teachers since it offsets their lack of subject knowledge by tapping into collective knowledge.

Problem 3. Is there a significant relationship between the non-specialized teacher preparedness and adaptive strategies?

Table 3 shows the correlation analysis between the Non-specialized Teacher Preparedness and Adaptive Strategies. The correlation between teacher preparedness and adaptive strategies showed a computed ρ-value of 0.759 with a computed p-value of 0.0001, which is less than the critical p-value at the 0.05 significance level. This shows that there is a significant relationship (Very Strong Positive) between teacher preparedness and adaptive strategies; hence, the null hypothesis is rejected. This result indicates that teachers who are more prepared have a greater ability to adapt through peer support, self-directed learning, and collaborative expertise. Teacher preparedness helps teachers be more adaptable to teaching demands, overcome challenges effectively, and improve teaching practices continually. The very high level of teacher preparedness contributes positively to school effectiveness, as teachers can deliver clear instruction and apply appropriate teaching strategies even outside their specialization. This helps keep students engaged and supports better academic outcomes. It also highlights the importance of professional development, collaboration, and access to instructional resources to sustain school performance.

Table 3. Test for Correlation Between the Non-specialized Teacher Preparedness and the Level of Adaptive Strategies

Teacher Preparedness	Adaptive Strategies			
	Peer Support	Self-Directed Learning	Collaborative Expertise	**Overall**
Content Knowledge	ρ = 0.541 p = 0.0001*	ρ = 0.411 p = 0.0001*	ρ = 0.524 p = 0.0001*	ρ = 0.520 p = 0.0001*
Teaching Methods	ρ = 0.675 p = 0.0001*	ρ = 0.636 p = 0.0001*	ρ = 0.669 p = 0.0001*	ρ = 0.694 p = 0.0001*
Learning Resources	ρ = 0.628 p = 0.0001*	ρ = 0.662 p = 0.0001	ρ = 0.683 p = 0.0001*	ρ = 0.724 p = 0.0001*
Overall	ρ = 0.656 p = 0.0001*	ρ = 0.703 p = 0.0001*	ρ = 0.715 p = 0.0001*	**ρ = 0.759**** **p = 0.0001***

Note: *Significant at 0.05 level of significance
**0.71-0.99 (Very Strong) 0.51-0.70 (Strong) 0.31-0.50 (Weak) 0.01-0.30 (Very Weak)

This result is consistent with the study of Guerriero (2020), which stressed that teacher preparedness, especially in content knowledge and pedagogical skills, is critical for adaptive expertise. Guerriero clarified that prepared teachers are in a better position to reflect on their teaching practices, identify instructional gaps, and work together to find solutions. The study also noted that prepared teachers have the ability to make informed teaching choices and modify teaching approaches according to learner's needs. In addition, teachers who possess higher levels of preparedness are more confident in participating in professional collaboration and continuous learning. These characteristics, collectively, enhance the adaptive capacity and teaching effectiveness of teachers.

Regarding Content Knowledge, the correlation with adaptive strategies indicated computed ρ-values from 0.411 to 0.541, with an overall ρ-value of 0.520 and a p-value of 0.0001, which is less than the critical p-value at the 0.05 significance level. This indicates a significant relationship (Strong Positive) between content knowledge and adaptive strategies, resulting in the rejection of the null hypothesis. Content knowledge plays a significant role in enabling teachers to understand what they teach in-depth and to recognize areas where additional learning is required. Teachers with high content knowledge are more equipped to participate in peer conversations, access professional development, and make valuable contributions to collaborative expertise. As Roll and Wylie (2021) stated, teachers who have strong content knowledge are more likely to reflect and adapt when faced with problems. The study mentioned that content knowledge helps teachers in analyzing the problem in instruction and choosing

the right strategy to adapt. It also highlighted that teachers with strong content knowledge are more confident in trying new approaches and adapting their instruction based on feedback from the learners.

The Teaching Methods calculated ρ-values varied from 0.636 to 0.694, with p-values of 0.0001, signifying a significant relationship (Strong Positive) between teaching methods and adaptive strategies. Hence, the null hypothesis is rejected. This result indicates that those teachers who have diverse teaching methods are more likely to adapt their teaching through collaboration, continuous learning, and mutual assistance. Flexible teaching methods are essential, and these, in turn, promote adaptive strategies. Teachers who are adept at teaching methods are more receptive to feedback and are more likely to modify their teaching methodologies to cater to the needs of the learners. This result is in line with the study of König et al. (2021), which reported that teachers who possess high pedagogical competence were more adaptable, particularly in times of instructional change. The study emphasized that teachers who possess high pedagogical competence were more proactive in soliciting collaboration and learning opportunities from their peers. The study further emphasized that teaching practices that are based on high pedagogy allow teachers to adapt their instruction effectively in various learning settings. Therefore, effective teaching practices are major contributors to improving teachers' adaptability.

For Learning Resources, the findings indicated computed ρ-values ranging from 0.628 to 0.724, with an overall ρ-value of 0.724 and p-values of 0.0001, which are all less than the critical p-value. This indicates a strong relationship (Very Strong Positive) between learning resources and adaptive strategies, leading to the rejection of the null hypothesis. Learning resources are a complex factor in facilitating adaptive teaching through the use of learning materials that aid in lesson modification, differentiated instruction, and collaborative planning. Teachers with adequate learning resources are more likely to investigate new teaching approaches and participate in self-directed learning. As stated by Bond et al. (2021), the availability of various learning resources is an important factor that improves the adaptive abilities of teachers greatly. According to the study, learning resources, especially technology-based ones, help teachers to work together, learn from each other, and develop in their teaching practices. The study also added that learning resources help teachers to adapt to the different needs of learners and the changing environments of their classrooms.

Collectively, these findings clearly show that a higher level of non-specialized teacher preparedness, in terms of overall preparedness and its various dimensions, is significantly related to a higher level of adaptive strategies. This finding is very much supported by the study of Hargreaves and O'Connor (2021), which strongly argued that teacher adaptability is intricately linked with professional preparedness and development. According to this study, teachers who are highly prepared in terms of their academic and pedagogical knowledge are better positioned to adapt to classroom instruction, work collaboratively with colleagues, and effectively respond to the changing demands of the classroom. The authors further clarified that teachers' preparedness helps them make professional judgments, reflect on their teaching practices, and adopt flexible strategies to facilitate student learning. In the context of non-specialized teachers, the importance of preparedness cannot be overstated, as it helps non-specialized teachers compensate for their lack of subject matter specialization by adopting adaptive professional practices. According to Hargreaves and O'Connor, improving teachers' preparedness helps promote collaborative professionalism, which ultimately helps teachers adapt to the challenging demands of the classroom and ensure high-quality instruction despite the presence of diverse educational settings.

Problem 4. Which of the dimensions in the independent variables predict singly or in combination the level of adaptive strategies?

Table 4. Simple Linear Regression Between Non-Specialized Teachers' Preparedness and Adaptive Strategies

Predictor	Unstandardized Coefficients (B)	Standardized Coefficients (β)	t-value	p-value	Decision	Interpretation
(Constant)	0.785	-----	3.584	0.001	----	-----
Teacher Preparedness	0.819	0.836	15.551	0.0001	Reject H_{02}	Significant
Model Summary:						
$R^2 = 0.699$; *Adjusted* $R^2 = 0.696$; *F-value* $= 241.833$; *p-value* $= 0.0001$; *Interpretation* = Significant						

Table 4 shows the Simple Linear Regression Analysis to determine whether Teacher Preparedness is a predictor of the use of Adaptive Strategies by non-specialized teachers. As shown in the table, the regression model examining the preparedness of non-specialized teachers as a predictor of their level of adaptive strategies is statistically significant. The model explains 69.9%

of the variance in adaptive strategies with adjusted R^2 of 0.696, indicating a very strong explanatory power. The overall model fit is confirmed by a large F-value = 241.833 with p = 0.0001, showing that the model significantly predicts the outcome variable.

The results of the regression analysis show that teacher preparedness is a good predictor of adaptive strategies, with a beta coefficient of β = 0.836, a calculated t-value of 15.551, and a p-value of 0.0001, which is lower than the critical p-value at the 0.05 significance level. This implies that the null hypothesis is rejected. The large beta coefficient implies that teacher preparedness has a significant impact on the use of adaptive strategies by non-specialized teachers. This implies that well-prepared teachers are better placed to utilize peer support, self-directed learning, and collaborative expertise to overcome instructional difficulties. Preparedness empowers teachers with the confidence, competence, and flexibility required to cope with the various demands of the classroom.

This conclusion is strongly supported by the study of Darling-Hammond et al. (2020), which stressed that teacher preparedness is a key element in promoting adaptive and responsive teaching. According to the study, teachers who are well-prepared, especially those who possess high-quality pedagogical knowledge and professional development opportunities, are more likely to adapt their teaching to accommodate different learners. The study clarified that teacher preparedness enables teachers to develop skills for engaging in reflective practice, collaboration, and ongoing improvement of their teaching practices. For non-specialist teachers, the role of teacher preparedness is even more important because it mitigates the lack of subject matter specialization by enhancing adaptability through collaboration, self-directed learning, and collective expertise. According to the study, teachers who feel prepared are more likely to feel confident in trying out new approaches to teaching and adapting to unexpected situations in the classroom. In general, Darling-Hammond et al. concluded that improving teacher preparedness will result in greater levels of adaptability, effectiveness, and teaching quality.

Based on the regression results, the regression equation model is expressed as:

$$Y = 0.785 + 0.819X + \varepsilon$$

where Y is the adaptive strategies, X is the teacher preparedness, and ε is the error term. The constant (0.785) represents the expected level of adaptive strategies when teacher preparedness is equal to zero, serving as the baseline level of the outcome variable. The regression coefficient for teacher preparedness (0.819) indicates that for every one-unit increase in teacher preparedness, the adaptive strategies of non-specialized teachers are expected to increase by 0.819 units, holding other factors constant. The error term (ε) captures the influence of other variables not included in the model, acknowledging that although teacher preparedness significantly predicts adaptive strategies, it does not fully account for all variation in the outcome variable.

Table 11on the next page presents the multiple linear regression results examining the dimensions of teacher preparedness, such as content knowledge, teaching methods, and learning resources, as simultaneous predictors of adaptive strategies. The regression model examining the dimensions of preparedness of non-specialized teachers as predictors of their level of adaptive strategies is statistically significant. The model explains 11.5% of the variance in adaptive strategies with an adjusted R^2 of 0.104, indicating a moderate explanatory power. The overall model fit is confirmed by an F-value of 10.097 with p = 0.0001, showing that the model significantly predicts the outcome variable.

Table 5. Multiple Linear Regression Between Non-Specialized Teachers' Preparedness and Adaptive Strategies

Predictors	Unstandardized Coefficients (B)	Standardized Coefficients (β)	t-value	p-value	Interpretation
(Constant)	0.642	-----	3.043	0.003	-----
Content Knowledge	0.048	0.058	0.711	0.478	Not Significant
Teaching Methods	0.326	0.357	3.972	0.0001	Significant
Learning Resources	0.477	0.505	6.016	0.0001	Significant
Model Summary:					
$R^2 = 0.115$; *Adjusted* $R^2 = 0.104$*; F-value* $= 10.097$*; p-value* $= 0.0001$*; Interpretation* = Significant					

The regression analysis shows that out of the three predictors, Learning Resources stood out as the most powerful and significant predictor (β = 0.505, t = 6.016, p = 0.0001). The large standardized beta weight and extremely small p-value indicate that the use of learning resources has a great impact on the outcome variable. This indicates that when teachers are provided with sufficient learning resources, they are likely to perform well in their teaching roles. Learning resources make complex concepts more concrete and clearer to the students. They make teaching more effective and efficient. This finding is consistent with recent research that has shown that well-designed and adequate learning resources play an important role in improving teaching effectiveness and student performance. According to Bond et al. (2020), the effective use of instructional resources,

especially digital and multimedia resources, has a positive effect on classroom instruction and student engagement. Teachers who often use different learning resources tend to perform better in terms of instructional quality and flexibility, which enhances learning.

Teaching Methods were also discovered to be a significant predictor of the dependent variable (β = 0.357, t = 3.972, p = 0.0001). This finding suggests that the approaches and methods used by teachers in teaching have a significant impact on shaping learning outcomes, although the predictive power of teaching methods is less compared to learning resources. Effective teaching methods, including student-centered teaching, differentiated learning, and interactive teaching, help teachers address the needs of different learners and facilitate learning. When teachers use effective teaching methods, they create a learning environment that encourages participation, critical thinking, and active engagement. This finding is supported by Darling-Hammond et al. (2020), who stated that effective teaching methods based on effective pedagogy have a significant positive impact on learning and instructional quality. Teaching methods that engage students actively and provide feedback have a strong positive association with learning outcomes, which supports the significance of teaching methods in effective instruction.

On the other hand, Content Knowledge failed to appear as a significant predictor in the regression analysis (β = 0.058, t = 0.711, p = 0.478). Although content knowledge is a crucial foundation for teaching, the findings indicate that content knowledge alone is not a significant predictor of the dependent variable when teaching methods and learning resources are taken into account together. This finding suggests that having content knowledge alone may not be adequate to make a significant impact on the dependent variable unless it is combined with appropriate teaching methods and learning resources. Teachers may have adequate content knowledge, but unless they have effective teaching methods, their capacity to convert knowledge into effective learning experiences may be limited. This finding is in line with the views of König et al. (2021), who suggested that content knowledge needs to be combined with pedagogical skills to make a significant impact on teaching practices. Although content knowledge is important, the effectiveness of teaching is more dependent on how teachers use their knowledge through teaching methods and learning resources that support students.

Based on the regression results, the regression equation model is expressed as:

$$Y = 0.642 + 0.326X_1 + 0.477X_2 + \varepsilon$$

where Y is the adaptive strategies, X_1 is the teaching methods, X_2 is the learning resources, and ε is the error term. The constant (0.642) represents the expected level of adaptive strategies when teaching methods and learning resources are equal to zero. The regression coefficients indicate that, holding other factors constant, a one-unit increase in teaching methods is associated with a 0.326-unit increase in adaptive strategies, while a one-unit increase in learning resources is associated with a 0.477-unit increase in adaptive strategies. The error term (ε) accounts for the influence of other variables not included in the model, indicating that although teaching methods and learning resources significantly predict adaptive strategies, they do not fully explain all variation in the outcome variable.

Problem 5. Based on the results of the study, what professional enhancement plan can be designed?

Table 6 on the next page presents the Professional Development Plan for Non-Specialized Teacher Preparedness and Adaptive Strategies. It is a systematic and standards-driven approach aimed at responding to the instructional concerns of teachers who are dealing with non-specialized subjects.

Table 6. Professional Enhancement Plan for Non-Specialized Teacher Preparedness and Adaptive Strategies

Priority Professional Enhancementt Needs (Based on PPST)	1. Strengthening the preparedness of non-specialized teachers in using effective teaching strategies and methods. 2. Improving the adaptive strategies of non-specialized teachers through professional collaboration. 3. Improving the effective use of learning resources to support teaching outside one's specialization.
Professional Enhancement Goal	To improve the preparedness and adaptive strategies of non-specialized teachers in terms of strengthening teaching strategies and methods, effective use of learning resources, and professional collaboration in accordance with the Philippine Professional Standards for Teachers (PPST) for School Year 2026-2027.

Topic	Subject Area	Objectives	Methods / Strategies	Provider of Professional Development Activities	Learning Resources/ Budget Allocation	Time Frame (SY 2026–2027)	Success Indicator PPST Competencies Enhanced	MOVs
Strengthening Teaching Strategies for Non-Specialized Teachers	Araling Panlipunan	To enhance the preparedness of non-specialized teachers in using effective teaching strategies	Engagement in INSET sessions, seminars, and Learning Action Cell (LAC) meetings on learner-centered and adaptive teaching practices	School Head; INSET Coordinators; District Education Program Supervisor (EPS)	Teaching guides, lesson exemplars, and professional reference materials MOOE	1st–2nd Quarter, SY 2026–2027	Use of effective teaching methodologies based on the needs of learners	Certificate of participation in Inset seminars LAC Session Plan Classroom Observation Tool
Professional Collaboration for Adaptive Teaching	ESP	To improve adaptive strategies through professional collaboration	Engagement in peer mentoring, collaborative lesson planning, and professional learning community (PLC) activities	School Head; Master Teachers; Subject Group Heads	Collaborative planning tools and shared instructional materials MOOE	Throughout SY 2026–2027	Collaboration and teamwork among professionals in teaching	Peer Mentoring Form Collaborative Lesson Plan PLC Meeting minutes Reflection notes
Reflective Practice for Continuous Professional Learning	MAPEH	To enhance reflective practice and continuous professional learning	Engagement in reflective teaching sessions, professional readings, and school-based instructional reviews	Master Teachers; LAC Leaders; School Research Coordinator	Reflective tools, journals, and DepEd professional learning resources MOOE	2nd–4th Quarter, SY 2026–2027	Reflective practice for professional growth	Reflective Notes Action Plan Professional Reading Log

Effective Use of Learning Resources in Teaching	To improve the effective use of learning resources in teaching non-specialized subjects	Attendance in trainings on the development of instructional materials and resource use	Division Education Program Supervisor (EPS); Learning Resource (LR) Supervisor; ICT Coordinator	Digital tools, multimedia resources, and contextualized instructional materials MOOE	1st–3rd Quarter, SY 2026–2027	Use of learning resources to support teaching	Certificate of participation Program Matrix Sample Developed IMs
Adaptive Teaching for Diverse Learners	To improve teaching adaptability in responding to diverse learning needs	Engagement in trainings and LAC meetings on differentiated instruction and adaptive teaching practices	Division Inclusive Education Coordinator; EPS; Master Teachers	Inclusive education materials, lesson plans, and assessment tools MOOE	3rd–4th Quarter, SY 2026–2027	Teaching strategies that are responsive to diversity in learners	Differentiated Lesson Plans Assessment Tools for varied diverse Learners Sample Learning Activities

Based on the Philippine Professional Standards for Teachers (PPST), this plan is focused on the continuous professional development of teachers through capacity-building activities implemented throughout School Year 2026-2027.

Recent studies have supported the fact that teachers dealing with non-specialized subjects encounter concerns in terms of subject matter knowledge, teaching confidence, and teaching effectiveness. The lack of alignment between teacher specialization and teaching assignments has a negative impact on teaching quality and student outcomes. Non-specialized teachers may lack the capacity to provide student-centered and conceptually correct instruction without proper professional support (Darling-Hammond et al., 2020)

The plan has identified three priority enhancement areas, namely improving teachers' readiness in applying effective teaching approaches, improving adaptive teaching practices through collaborative professional enhancement, and improving the use of learning resources in non-specialized teaching settings. In particular, teachers will be encouraged to implement differentiated instruction strategies such as **flexible grouping, tiered learning activities, varied instructional materials, and the use of formative assessments to address diverse learner needs**. These areas align with recent literature that emphasizes the need for pedagogical flexibility and access to relevant instructional resources in effective teaching in non-specialized subject areas (OECD, 2021).

To address the identified enhancement areas, the plan has provided specific objectives that can be achieved through systematic professional development approaches such as In-Service Training (INSET), Learning Action Cell (LAC) meetings, peer mentoring, professional learning community activities, reflective teaching practices, and training on the development of instructional resources. Recent research strongly supports school-based and collaborative professional development approaches. Trust and Horrocks (2021) revealed that professional learning communities and peer mentoring activities can greatly improve teacher efficacy, especially when teachers are required to teach in non-specialized subject areas.

The addition of reflective practice in the plan is also supported by recent literature. Farrell (2021) argued that reflective teaching practice helps teachers critically assess their teaching practices, resulting in enhanced adaptability and professional development. Reflective professional development helps to achieve instructional coherence and long-term improvement in teaching performance. These points support the plan's focus on reflective teaching sessions, instructional analysis, and continuous professional enhancement.

Moreover, the plan's attention to the effective use of learning resources is also supported by Koehler et al. (2021), study which emphasized the significance of technology and high-quality instructional materials in supporting teachers' pedagogical and content-related issues. The study suggests that training teachers on contextualized and technology-enhanced instructional resources leads to enhanced learner understanding and academic achievement.

The phased delivery of activities throughout the four quarters of the school year encourages continuous professional enhancement, as opposed to isolated interventions. This is in line with Desimone and Pak's (2020) claimed that continuous and coherent professional enhancement is more effective than short-term training programs. The success indicators, which are linked to the PPST competencies, emphasize progress in learner-centered teaching, collaboration among teachers, reflective practice, and inclusive and differentiated instruction

IV. CONCLUSIONS

Based on the results obtained from the study, the following conclusions were made:

1. Non-specialized teachers are prepared even though they are teaching subjects outside their specialization.
2. Non-specialized teachers integrate adaptive strategies to cope with teaching challenges.
3. Teacher preparedness is associated with adaptive strategies.
4. Teaching methods and learning resources are essential in influencing teachers' ability to adapt.

V. RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations are hereby offered:

1. Non-specialized teachers may strengthen their teaching strategies and make the best use of learning resources.
2. Non-specialized teachers may continue to address teaching challenges by integrating adaptive teaching strategies that enhance instructional flexibility.
3. School administrators may sustain collaboration and sharing to further improve the adaptive strategies of teachers.
4. School administrators may maintain a supportive learning environment that encourages self-directed learning and shared expertise among teachers.
5. Future researchers may carry out similar studies with other variables, research designs, or populations to further confirm and generalize the findings of the current study.

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