

Adaptation Strategies and Learning Outcomes Amidst Curriculum Changes in Maco North, Davao de Oro

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Abstract. This study explored the impact of adaptation strategies on learning outcomes amidst curriculum changes among kindergarten to Grade 3 teachers in Maco North District, Davao de Oro. Grounded in Roy's Adaptation Model, the study employed a quantitative correlational research design to examine how learning action cell (LAC) sessions, instructional methods, and collaboration and support influence learning outcomes, particularly student engagement, behavioral modifications, and achievement of learning objectives. Using a validated survey instrument with a high internal consistency (Cronbach's $\alpha = 0.883$), responses were collected from 86 teacher-respondents selected using Slovin's formula. Data were analyzed using descriptive statistics, Pearson correlation, and linear regression through JASP. Results showed that adaptation strategies were practiced to a very extensive degree, with LAC sessions receiving the highest mean scores. Likewise, learning outcomes were reported as very extensively manifested, particularly in areas of student engagement and behavioral adjustments. Statistical analysis revealed a significant positive relationship between adaptation strategies and learning outcomes. Among the domains, instructional methods and LAC sessions emerged as the most influential factors. The study highlights the importance of teacher collaboration, contextualized instruction, and institutional support in responding effectively to curriculum reforms. It recommends sustained professional development and structured collaboration to strengthen instructional adaptability and enhance learner achievement.

KEY WORDS

1. adaptation strategies
2. learning outcomes
3. curriculum change
4. instructional methods
5. LAC sessions
6. teacher collaboration

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1. Introduction

The rapid pace of educational reform demands robust strategies for managing curriculum changes to ensure optimal learning outcomes on a global scale. Schools worldwide are confronted with substantial curriculum adjustments, compelling educators to adopt and implement new teaching methods and collaboration practices. "Adaptation Strategies and Learning Outcomes in Managing Curriculum Changes" rigorously investigates the effectiveness of various adaptation strategies, with a sharp focus on professional development sessions, instructional methods, and collaboration support. This research aims to conclusively identify the most effective approaches for navigating curriculum changes by scrutinizing their impact on student performance. The invaluable insights gained will serve as a guiding beacon for educators

and policymakers globally, driving enhanced educational practices and outcomes across diverse educational contexts. In a global context, Drayton et al. (2020) discussed that developing materials to support teachers' content knowledge, as well as students' scientific inquiry and classroom discourse, enhanced learners' performance. These approaches represent different points on a continuum of design for adaptation, each with its consequences for implementation and the design of written materials. In his work, Waeraas (2021) examines the contrast between the research approaches of organizational translation and adaptation studies. He delves into the distinctions and parallels in how these disciplines investigate changes in adopted constructs. The author highlights the differences in the foundational assumptions of translation and adaptation literature, and asserts the need for a more cohesive integration of the insights provided by both traditions. He argues that a comprehensive understanding of the learning dynamics involved in transforming circulating constructs necessitates the contributions of both research traditions. In 2023, Dinu and Chian conducted a comprehensive analysis of the modifications made to a reading curriculum tailored for primary students learning English as a Second Language in Hong Kong. The study focused on the alterations implemented throughout the academic year. It revealed that data, instructional time, and diverse teaching methods propelled the adjustments. Moreover, three fundamental principles of curriculum adjustments surfaced, underscoring the importance of personalized learning, systematic organization of learning activities, and purposeful integration of theory and practice. In the Philippines, teachers have consistently upheld the standards while transitioning to the new education program, resulting in a visibly successful implementation of the transitional curriculum. A comprehensive evaluation can provide a thorough overview of the transition program's im-

plementation, leading to potential revisions that improve curriculum outcomes. These outcomes can contribute to developing robust human capital, essential for fostering and sustaining the country's economic growth through knowledge-based initiatives (Morales, 2023). The challenges faced by teachers during their transition revealed difficulties in tasks such as preparing paperwork, assessing students, adapting to the new curriculum, establishing authority with students, managing disruptive behavior, conducting diagnostic assessments, navigating interpersonal issues with colleagues, and meeting high-performance expectations. The teachers coped with these challenges by engaging in discussions with colleagues and staying updated on advances in educational technology. Interestingly, the study found that teachers from public and private schools implemented different adaptation mechanisms (Asi Macarandang, 2020). Additionally, challenges to the country's educational system resulting from the implementation of the National Recovery Program (NRP) have been taken into account. The data showed that the percentage of learners with little to no proficiency in both literacy and numeracy declined. Specifically, it was noted that 38 percent of learners in grades 1 to 3 are non-readers, and another 48 percent struggle with basic mathematical problems. This issue has been the framework for the launching of the said program; however, this will lead teachers to be half-baked in terms of teaching performance due to the rapid changes or shift from one learning program to another, adding to the dilemma of teaching strategy adaptation concerns (Senate of the Philippines, 2024). The implementation of the Matatag curriculum in the Davao region has faced various concerns among teachers and school stakeholders due to the challenges posed during the transition to the new curriculum. It can be noted the implementation of the new curriculum can have transitional challenges due to curriculum adoption, challenges on capacity

building among teachers, and adaptive leadership. Furthermore, the implementation would also require schools to have sufficient financial resources for new teaching materials and the training of school staff. It was also highlighted that the barriers to program effectiveness include funding, infrastructure, evaluation and monitoring, teacher adaptation and preparedness, and support systems (Bentayo et al., 2024). Implementing curriculum changes in Davao de Oro presents challenges for educators, including aligning new standards with existing teaching practices and addressing varying levels of teacher preparedness. Limited resources, teachers' training, and insufficient collaboration and support hinder effective adaptation strategies. The diverse student population in Davao de Oro adds complexity, requiring tailored approaches to cater to different learning needs. Addressing these issues is crucial for ensuring that curriculum changes lead to improved learning outcomes and equitable educational opportunities for all students in the region. Moreover, understanding how educators adapt to the changes in the educational system is not only timely but essential, and yet studies examining these strategies have remained limited. Nonetheless, the urgency to investigate it is very important since these adaptations can be translated into measurable learning gains or losses, especially among the diverse learners.

1.1. Review of Significant Literature—Adaptation Strategies and Professional Development Teachers globally adapt to curriculum changes through strategies like Learning Action Cell (LAC) sessions, professional learning communities (PLCs), differentiated instruction, and technology integration (Darling-Hammond et al., 2020; Deunk et al., 2020; Bedenlier Zawacki-Richter, 2021). Culturally responsive pedagogy and flexible instruction are also emphasized to address student diversity and improve engagement (Sleeter, 2021).

LAC sessions, central to Philippine teacher

development, foster collaboration, reflection, and instructional innovation, leading to enhanced teacher confidence and student learning (Castillo Asas, 2020; Salandanan, 2020; DepEd, 2021). Comparable initiatives—PLCs in the US, TLCs in the UK, and inquiry circles in Australia and Canada—have shown similarly positive outcomes when supported by school leadership (DuFour et al., 2020; Jensen et al., 2020; Cordingley et al., 2020).

Instructional Methods to Enhance Engagement and Learning Active learning, technology-enhanced instruction, differentiated teaching, and project-based learning (PBL) have been proven effective in boosting student performance, engagement, and critical thinking (Freeman et al., 2020; Bond et al., 2021; Larmer et al., 2019). These methods allow educators to tailor instruction, accommodate diverse learners, and foster deep understanding through real-world application and collaboration (Bonwell Eison, 2021; Tomlinson, 2019).

1.1.1. Collaboration and Support Mechanisms—Professional growth is bolstered by peer mentoring, coaching, and supportive leadership. Peer support builds teacher confidence and practice (Hobson Maxwell, 2020; Orleans, 2020), while coaching improves pedagogy and classroom performance (Cordingley et al., 2021). Effective school leaders create environments conducive to shared decision-making, innovation, and ongoing improvement (Leithwood et al., 2019; Cranston, 2021).

1.1.2. Learning Outcomes and Curriculum Reform—The K to 12 curriculum has broadened the Philippine educational landscape, enhancing student readiness, engagement, and academic skills. Studies show improvements in student competencies, especially in science and math, via interactive approaches (David et al., 2019; Reyes Castillo, 2020; Arzadon Nato, 2021). However, implementation remains challenged by resource constraints, teacher readiness, and infrastructure gaps (Espino et al.,

2019; Bacani Capili, 2020).

Formative assessments are now favored for their continuous feedback and alignment with learning goals (Tan Bernardo, 2019). Teacher training and LAC participation are vital to successful implementation and alignment with curriculum outcomes.

1.1.3. Student Engagement and Behavior—Curricular reforms have increased student engagement by introducing student-centered and tech-supported learning (Francisco Barcelona, 2021). Engaged learners show higher motivation, academic achievement, and classroom participation (Reyes Castillo, 2020; Bacani Capili, 2020).

Positive behavioral changes—fewer disruptions, increased attention—have been observed under the reformed curriculum. These are fostered by supportive teaching practices, parental involvement, and the use of digital tools (Santos Concepcion, 2019; Martinez Sison, 2021).

1.1.4. Achievement of Learning Objectives—Student mastery of objectives correlates with academic success and readiness for advanced education. Well-prepared teachers, equipped with assessment tools and support systems, drive student achievement (Reyes Castillo, 2020; Bacani Capili, 2020). However, disparities in teacher training, materials, and classroom size remain obstacles (Espino et al., 2019).

1.2. Synthesis—Implementing curriculum changes depends on the precise deployment of adaptation strategies, significantly influencing learning outcomes. Key benchmarks of these strategies include LAC sessions, varied instructional methods, collaborative support, student engagement, behavioral refinement, and the achievement of learning objectives. LAC sessions enhance professional development and foster a collaborative learning environment among educators. Diverse instructional methods accommodate different learning styles and sustain an engaging, pertinent curricu-

lum. Collaborative support mechanisms furnish crucial resources and peer guidance, expediting seamless transitions and effective instructional practices. Elevated levels of student engagement and favorable behavioral adjustments illustrate students' adaptability and openness to new curricular requirements. Ultimately, consistently achieving learning objectives is a precise measure of educational success, indicating students' proficiency in meeting prescribed competencies and standards. Collectively, these indicators provide a comprehensive framework for assessing and enhancing the effectiveness of curriculum changes, ultimately leading to improved educational outcomes and academic performance.

1.3. Theoretical Framework—Roy's Adaptation Model (RAM) in nursing is grounded in the principle that individuals and groups are adaptive systems interacting with a constantly changing environment. The model emphasizes fostering an integrated level of adaptation, where physiological, psychological, and social factors are balanced to promote wellness, enhance quality of life, and support a dignified approach to death (Roy, 2009). Adaptation is achieved through coping mechanisms, categorized as regulatory and cognitive subsystems, which enable individuals to respond effectively to internal and external stimuli. Nurses can guide patients toward improved health outcomes and greater resilience by addressing four adaptive modes—physiological needs, self-concept, role function, and interdependence. In the context of curriculum changes, RAM provides a theoretical framework for understanding how students, educators, and institutions adapt to evolving educational demands. Amid curricular reforms, such as those necessitated by new competency-based or outcomes-focused standards, students may encounter increased stress, unfamiliar learning environments, and shifts in expectations. Viewing students as adaptive systems enables educators to identify

stimuli that affect their learning ability and implement interventions that enhance coping and learning outcomes. Montegriconi (2023) highlights the growing concern in modern education about using RAM to manage content saturation in nursing curricula. Students often experience cognitive overload, hindering their ability to process and retain information. Using RAM, educators can introduce strategies such as scaffolding, integrating reflective practice, and fostering peer support to help students adapt effectively to new learning environments. These approaches mitigate stress and enhance engagement, critical thinking, and knowledge retention, ultimately leading to improved academic performance and professional readiness. In this way, Roy's Adaptation Model serves as a valuable framework for clinical nursing practice and provides a robust lens for navigating educational challenges. Its focus on holistic adaptation aligns well with the need to support learners and educators in achieving positive outcomes amid the complexities of curriculum transformation. Adaptive Teaching Theory is an educational strategy that emphasizes real-time, responsive modifications based on student requirements. Rather than assigning students to fixed groups, teachers continuously monitor and diagnose students' understanding through observation, formative assessments, and discourse, making on-the-fly adjustments in content, pacing, grouping, and scaffolding to ensure that all students meet shared learning objectives at high standards. This approach stresses teacher competence in content and pedagogy, continuous student evaluation, and adaptable instructional design in inclusive classroom environments. Moreover, adaptive teaching has been associated with better student motivation, need fulfillment (autonomy, competence, relatedness), and academic performance, particularly when micro-level classroom assistance aligns

with overall instructional quality (Parsons et al., 2017). Adaptive Teaching Theory is crucial for establishing the connection between instructors' adaptation strategies and student learning outcomes. It suggests that effective teaching requires continually monitoring students' needs and adapting lessons in real time to meet various learning styles, readiness levels, and interests. This responsiveness enables teachers to provide more personalized, focused, and supportive instruction, thereby increasing student engagement, understanding, and achievement. The idea is that when teachers utilize adaptive strategies, such as diverse teaching, formative assessments, and scaffolded learning, they create inclusive learning environments in which all students have an equal chance to develop. As a result, adaptive teaching offers the theoretical foundation for linking instructional flexibility to improved student learning outcomes. Further, constructivist learning theory suggests that students generate their understanding by actively engaging with material, integrating new information with prior knowledge, and collaborating to negotiate meaning. When it comes to adaptation strategies, this theory suggests that when instructors employ constructivist techniques, such as inquiry, scaffolding, collaborative projects, and real-world problem-solving, they create environments in which students co-construct knowledge and absorb concepts more deeply. Research indicates that constructivist classrooms, which emphasize exploration, social interaction, and reflection, are associated with greater academic achievement in science and mathematics. In this setting, constructivist-informed adaptive teaching approaches, such as task differentiation based on preparation, guiding students through inquiry-based projects, and fostering peer discourse, directly contribute to improved learning outcomes.

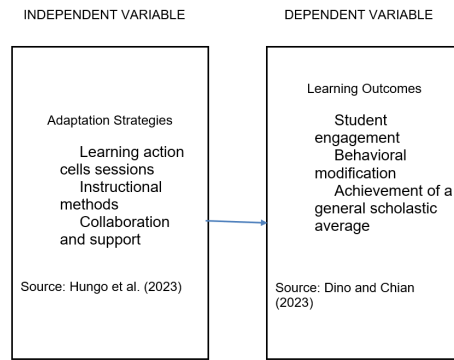


Fig. 1. Conceptual Framework of the Study

Educators can enhance education by introducing adaptability into the constructivist framework to inspire critical thinking, conceptual transformation, and long-term retention (Saarsar, 2018). Constructivist Learning Theory is critical for understanding the link between instructors' adaptation strategies and student learning outcomes. It advocates for learners to actively develop knowledge via experiences, reflection, and social engagement rather than passively receiving information. When teachers use adaptive strategies such as inquiry-based learning, scaffolding, collaborative work, and real-world problem-solving, they are applying their methods to constructivist concepts. These strategies allow students to engage with material in meaningful ways, connect new ideas to

prior knowledge, and develop critical thinking skills. The more teachers personalize their instruction to each student's specific needs, interests, and backgrounds, the more effective the learning process becomes. Therefore, Constructivist Learning Theory explains why adaptive teaching increases student engagement, deepens knowledge, and improves academic outcomes—it supports the idea that personalization and active involvement in learning are essential for success.

1.4. Statement of the Problem—The study was conducted to determine the impact of adaptation strategies on learning outcomes amid curriculum changes in Macor North, Davao de Oro. This specifically sought to answer the following statement of the problem:

- (1) What is the extent of adaptation strategies among teachers in terms of;
 - (1) learning action cells sessions;
 - (2) instructional methods, and
 - (3) collaboration and support
- (2) What is the extent of learning outcomes in terms of;
 - (1) student engagement;
 - (2) behavioral modification;
 - (3) achievement of a general scholastic average
- (3) Is there a significant relationship between adaptation strategy and learning outcomes?
- (4) Which of the adaptation strategy domains significantly influence learners' learning outcomes?

1.5. Hypotheses—To provide empirical evidence given the posed theoretical and conceptual frameworks as claimed by the study, null

hypotheses were tested at a 0.05 alpha level of significance, stating: Ho 1: There is no significant relationship between adaptation strategy

and learning outcomes. and, Ho 2: None adaptation strategy domains significantly influence learners' learning outcomes.

Learners

This study is vital for learners as it emphasizes understanding and enhancing adaptation strategies to improve learning outcomes during curriculum changes. Educational reforms introduce new content, methods, and expectations, and learners often struggle to adapt. By pinpointing effective adaptation strategies, the study provides valuable insights into how learners can develop resilience, refine their coping mechanisms, and remain engaged in their studies. Ultimately, these findings aim to empower students to successfully navigate academic transitions, ensuring a seamless learning experience and fostering skills that support long-term academic and personal development.

Teachers

This provides valuable insights into the effectiveness of various adaptation strategies in enhancing learning outcomes during curriculum changes. By identifying the most impactful approaches, such as Learning Action Cell (LAC) sessions, diverse instructional methods, and robust collaboration support, the study equips teachers with evidence-based strategies to improve their teaching practices. This knowledge will help teachers better navigate curriculum changes, enhance student engagement and achievement, and ultimately contribute to a more effective and fulfilling teaching experience.

School Principals and Administrators

The study offers practical value for school principals, as it provides empirical evidence on the impact of various adaptation strategies on student learning outcomes in the context of curriculum changes. By understanding which strategies, such as Learning Action Cell (LAC) sessions, instructional methods, and collaboration support, are most effective, principals can make data-driven decisions to enhance in-

structional practices and professional development initiatives within their schools. This, in turn, will lead to improved student engagement, better academic performance, and a more effective implementation of curriculum changes, ultimately contributing to the school's overall educational success.

Public School District Supervisor

The study will undoubtedly provide critical insights into the effectiveness of various adaptation strategies in significantly improving learning outcomes amidst curriculum changes. By identifying which strategies, such as Learning Action Cell (LAC) sessions, instructional methods, and collaboration support, yield the most significant improvements, this research will decisively guide supervisors in making informed decisions about professional development, resource allocation, and instructional practices. Ultimately, the conclusive findings will undoubtedly support the enhancement of teaching quality and student performance, indisputably contributing to the district's overall educational success.

1.6. Future Researchers—The study is significant for future researchers as it offers a comprehensive analysis of the impact of adaptation strategies on learning outcomes amidst curriculum changes. By providing empirical evidence and methodological insights, this research serves as a valuable reference for future studies on educational adaptation and curriculum implementation. It lays the groundwork for further exploration into effective teaching practices and professional development, fostering a deeper understanding of navigating and optimizing curriculum changes in diverse educational contexts. This study defined the terms conceptually and operationally to understand better and reference them when discussing the results in the preceding chapters. Adaptation strategies refer to the methods and approaches that educators employ to adjust and respond effectively to changes in the curriculum. These

strategies ensure that teaching practices remain effective and that students achieve optimal learning outcomes. This study's adaptation strategies encompass key components, including Learning Action Cell (LAC) sessions, instructional methods, and collaboration support. LAC sessions are collaborative professional development meetings where teachers discuss, reflect on, and improve their teaching practices in light of new curriculum requirements. Learning outcomes refer to the specific knowledge, skills, attitudes, and competencies that students are expected to acquire through their educational experiences. These outcomes serve as measurable indicators of the effectiveness of teaching practices and the implementation of the cur-

riculum. This study uses learning outcomes as dependent variables to evaluate the impact of various adaptation strategies on student achievement in response to curriculum changes. The study focuses on several key aspects of learning outcomes, including student engagement, behavioral modification, and the achievement of learning objectives. Student engagement is assessed by examining how actively and effectively students participate in learning activities. Behavioral modification looks at changes in student behavior that contribute to a more conducive learning environment. The achievement of learning objectives measures how well students meet the specific goals set by the new curriculum.

2. Methodology

This chapter contains the processes and steps for conducting the study. These include selecting the study's design, respondents, sampling method, research instruments for data gathering, procedure, ethical considerations, and data analysis. These steps ensured the appropriateness and correctness, producing sound data collection, analysis, and interpretation. The researcher employed artificial intelligence methods to proofread this work meticulously during its preparation. Artificial Intelligence (AI) enhanced the manuscript's quality, coherence, and precision. This methodology is being openly communicated to adhere to ethical norms in research. Leveraging AI for proofreading underscores a commitment to the responsible use of cutting-edge technologies and acknowledges AI's growing role and potential in professional and academic writing.

2.1. Research Design—A quantitative correlational research design is a non-experimental approach that examines the statistical relationship between two or more variables without manipulating them. This design aims to identify patterns, trends, and associations to understand how variables relate to a specific population. As Creswell and Creswell (2023) noted, correlational research is instrumental in determining the prevalence and relationships among variables, which can inform decision-making in healthcare practices. In correlational studies, researchers measured the variables as they naturally occur, seeking to determine whether an increase or decrease in one variable corre-

sponds with changes in another. This method is beneficial when ethical or practical constraints prevent experimental manipulation. However, it is crucial to recognize that correlation does not imply causation; a significant relationship between variables does not confirm that one causes the other. Correlational designs enable researchers to predict scores and explain relationships among variables, but they do not establish causal connections. Correlational research designs are widely used across various fields, including psychology, education, and health sciences, to explore complex relationships and generate hypotheses for further study. Researchers can quantify the strength and direction of re-

lationships by employing statistical analyses, such as Pearson's correlation coefficient, which provides valuable insights that can guide future experimental research. The quantitative correlational research design is highly applicable to a study examining adaptation strategies and learning outcomes during curriculum changes. It allows for exploring relationships between how learners adapt and their academic outcomes without manipulating the variables. In this context, adaptation strategies may include coping mechanisms such as time management, engagement with support systems, or use of technology, while learning outcomes could encompass academic performance, retention rates, or skill acquisition. Employing a correlational design, the study can investigate whether specific adaptation strategies are positively or negatively associated with learning outcomes. For instance, it can determine if students who adopt proactive coping mechanisms, such as collaborative learning or educational technology, achieve better academic outcomes than those relying on reactive strategies, such as avoidance or minimal engagement. This understanding can inform educators and policymakers in developing targeted interventions to support learners during curricular transitions. Statistical analyses, such as Pearson's correlation coefficient or regression analysis, can quantify the strength and direction of these relationships. As Creswell and Creswell (2023) suggest, this design is instrumental in uncovering patterns within large datasets, enabling researchers to generate predictive models. While the design does not establish causation, it provides valuable insights into trends that can guide further experimental research or practical applications. Ultimately, applying this design to the study aids enables the identification of key adaptation strategies that contribute to positive learning outcomes amid curriculum changes, ensuring learners can navigate academic transitions effectively.

2.2. Ethical Considerations—The ethical consideration section of this study addressed the key principles that ensured the protection and well-being of the teacher-respondents involved. This includes adhering to confidentiality, obtaining informed consent, and ensuring the voluntary nature of participation, thereby ensuring that the research is conducted with integrity and respect for the rights of all respondents.

Social Value

The social value of this study lies in its ability to support teachers in the Maco North District by addressing the challenges they face amid curriculum changes. By examining their adaptation strategies and the resulting learning outcomes, I aim to provide insights that can enhance teaching practices and foster more effective approaches to managing educational transitions. This research aims to empower teachers with practical solutions and enhance the overall quality of education in our district. Ultimately, this study contributed to fostering a resilient and innovative teaching community that has a positive impact on the lives of both educators and students.

In conducting this study in the Maco North District, I prioritized obtaining informed consent from all participating teachers to ensure their rights and autonomy are respected. I provided them with a clear explanation of the study's purpose, objectives, procedures, potential benefits, and any risks involved. I emphasized that their participation is voluntary, and they may withdraw without repercussions. Additionally, I ensured that they fully understand the confidentiality measures in place to protect their identities and responses. By fostering transparency and mutual respect, I aim to create a trusting and ethical research environment that values the contributions of our teachers. I am committed to ensuring the privacy and confidentiality of all teachers participating in this study in the Maco North District. I protected their identities by anonymizing their responses

and using codes instead of names or identifying details in the data. All collected information was securely stored and accessible only to authorized individuals involved in the study. I also ensured that the findings are reported in a way that prevents any teacher from being personally identified. By maintaining these standards, I aim to create a safe and trustworthy environment that respects the personal and professional privacy of the respondents.

I acknowledge that participating in this study may pose minimal risks to the teachers in Maco North District, such as potential discomfort in sharing their experiences or concerns about how their responses will be used. To mitigate these risks, I created a supportive environment where they feel safe and respected, emphasizing that their participation is voluntary and confidential. The potential benefits of this study include gaining insights into effective adaptation strategies and improving teaching practices in response to curriculum changes, which can ultimately enhance both professionals' experiences and students' learning outcomes. I ensured that all safety measures were in place to protect their well-being throughout the research process. By fostering honest and transparent communication, I aim to build trust with the participants and ensure they feel fully informed and respected in their involvement in the study.

2.3. Research Respondents—The study's respondents were elementary school teachers teaching kindergarten to grade 3 teachers in Maco North District, Davao de Oro. Slovin's formula determines the sample size for a study involving 110 kindergarten teachers in the Maco North District. The formula, $n = \frac{N}{1 + Ne^2}$, calculates the required sample size (nn), where NN is the total population, and ee is the margin of error, expressed as a decimal. The margin of error is set at 5 percent ($e = 0.05$) to strike a balance between accuracy and feasibility. Since sample sizes are generally rounded to the nearest whole number, the

required sample size would be approximately 86 kindergarten teachers. This process ensures that the sample is representative of the population, providing reliable data for the study while maintaining the desired level of precision. The researcher proportionately distributed the 80 respondents from the respective schools. Considering the availability of Wi-Fi connections, the respondents were informed online and face-to-face. They were likewise oriented about the purpose and importance of the study and its contribution to their professional development status. The elementary school teachers teaching Kindergarten to Grade 3 in Maco North District, Davao de Oro, are qualified as respondents for the study based on the following inclusion criteria: Direct Involvement in Early Childhood Education. These teachers are directly responsible for delivering foundational education, critical to understanding the adaptation strategies and learning outcomes amidst curriculum changes. Their experiences provide valuable insights into the challenges and strategies for implementing early childhood education curricula. Expertise in Developmentally Appropriate Practices. Teachers handling Kindergarten to Grade 3 are trained in developmentally appropriate teaching methodologies. This makes them well-equipped to share practical approaches and strategies for fostering learning and adaptation during curriculum shifts. Experience with Curriculum Implementation. These teachers actively implement the curriculum for early grade learners, familiarizing them with its structure, content, and challenges. Their hands-on experience is crucial for examining how curriculum changes affect teaching practices and student learning. Proximity to Learners' Developmental Needs. Teachers in these grades work closely with young learners during their formative years, allowing them to observe firsthand how curriculum changes influence learning engagement, adaptation, and outcomes. Representative of Early Grade Teachers in the District. Including these teachers ensures

that the study represents the experiences and perspectives of educators from the primary education level, which is pivotal to foundational literacy and numeracy programs. Familiarity with Local Context. These teachers operate within the specific educational and cultural context of Maco North District, Davao de Oro. Their responses will reflect this region's unique challenges and strategies, ensuring the study's findings are relevant and actionable. Availability and Willingness to Participate. Respondents must be available and willing to provide honest and detailed information through surveys, interviews, or other data collection methods required by the study.

2.4. Research Instrument—In this research study, the researcher employed an adapted instrument derived from a comprehensive review of the literature and related studies. A dedicated effort was made to collect and scrutinize literature to extract concepts that informed the content and offered support for the instrument and its associated strands. This meticulous process articulated a set of question items, addressing potential threats to the study's validity. Items were adopted from the instruments for the study entitled "Leadership

and Challenges: A Phenomenological Exploration of Teacher-Principals in the Philippines" by Hungo et al. (2023). The survey questionnaire consists of items grouped according to their indicators, learning action cell sessions, instructional methods, and collaboration. Likewise, the second part of the survey measured the extent of learning outcomes regarding student engagement, behavioral modification, and achievement of learning objectives. Further, the survey statements were subjected to a test-retest or validity and reliability testing using Cronbach's Alpha at a .05 confidence level. A Cronbach's alpha coefficient of 0.883 indicates a high level of internal consistency and reliability for the survey instruments used in the study. A Cronbach's alpha of 0.883 suggests that the survey items are highly consistent and reliable. This makes the survey instruments robust for capturing the intended data on adaptation strategies and learning outcomes amidst curriculum changes. The questionnaire used a 5-point Likert scale to determine the extent of adaptation strategies regarding learning action cell sessions, instructional methods, collaboration, and support. Scale, descriptive rating, and interpretation are provided below:

Scale	Descriptive Rating	Interpretation
4.20 – 5.00	Very Extensive	The adaptation strategies are always manifested
3.40 – 4.19	Extensive	The adaptation strategies are oftentimes manifested
2.60 – 3.39	Moderately Extensive	The adaptation strategies are sometimes manifested
1.80 – 2.59	Less Extensive	The adaptation strategies are rarely manifested
1.00 – 1.79	Not Extensive	The adaptation strategies are not manifested

Meanwhile, to determine the extent of learning outcomes in terms of student engagement, behavioral modification and achievement of

learning objectives, a 5-point Likert scale was used in this study, as presented below;

2.5. Data Gathering Procedure—The guidelines for this process adhere to the policies of The Rizal Memorial Colleges, Inc. As part of the formal request, researchers delineate

their intentions regarding data collection, analysis, and dissemination, aligning these with the overarching research goals. Anticipated concerns or questions from recipients are proac-

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1.00 – 1.79	Not Extensive	The learning outcomes are not manifested

tively addressed in this communication, providing assurances on ethical safeguards, confidentiality measures, and the potential benefits of the study. The formal permission request explicitly seeks authorization to proceed, emphasizing the pivotal role of their support in ensuring the research's success.

Permission to conduct the study

In October 2024, before data collection, the researcher obtained necessary permissions from the relevant authorities, including the research adviser, the Dean of The Rizal Memorial Colleges, Inc., and the top management of DepEd Davao de Oro Division, through the appropriate channels. This involved submitting a comprehensive research proposal outlining the study design, procedures, and potential risks and benefits. The researcher also provided detailed information about the study's purpose, goals, and methods for data collection, analysis, and reporting. Furthermore, in December 2024, immediately after the colloquium, the researcher ensured that all participants were fully informed about the study, their rights, and the nature of their involvement. Before participating in the study, informed consent was obtained from each participant. The researcher committed to data accuracy and completeness during the last week of January 2025. The distribution and retrieval of questionnaires were conducted using a standardized and systematic approach, ensuring the reliability of the responses collected from par-

ticipants.

Collation and statistical treatment of data

The researcher took time in data management. She ensured that the accurate data gathered were sorted accordingly through Microsoft Excel and later transferred to JASP. All necessary information was collected. Consistency was also considered to make it relevant to the problem's statement. Reliability and validity were reviewed to lessen the degree of error in the analysis.

2.6. Data Analysis—Mean scores and standard deviation I used them to address statement problems one, the extent of adaptation strategies, and two, the extent of learning outcomes in Maco North District, Davao de Oro Schools Division.

Pearson Product-Moment Correlation Coefficient (r) This was used to determine whether the correlation between adaptation strategies and learning outcomes.

Linear Regression Analysis This examined the relationship between a dependent variable (learning outcomes) and one or more independent variables (predictors, adaptation strategies). It further determined which domain of adaptation strategies influences learning outcomes. All data processing and analysis were performed using Jeffrey's Statistics Amazing Program (JASP) version 0.12.20. When results were yielded, discussions and interpretations followed.

3. Results and Discussions

This chapter presents the responses to the collected data, which are organized in both tabular and textual formats. It encompasses a comprehensive discussion of the results, grounded in the integration of relevant reviews of related studies. Based on the hypothesis formulated, this will

serve as the foundation for subsequent decisions.

3.1. Extent of Adaptation Strategies— Modifying teaching approaches to be culturally responsive is crucial in diverse international contexts. Educators incorporate students' cultural backgrounds into their instructional strategies, fostering inclusive learning environments that acknowledge and appreciate diversity. Research indicates that this approach enhances student engagement and academic performance (Gay, 2020; Sleeter, 2021). Moreover, integrating technology in education has emerged as a key strategy for instructional adaptation. Teachers leverage digital tools and platforms to support remote learning, personalize instruction, and promote interactive learning experiences. Studies suggest that the effective utilization of educational technology can substantially enhance student achievement and teacher effectiveness (Li Lalani, 2020; Bond, Marín, Dolch, Bedenlier, Zawacki-Richter, 2021).

3.1.1. Learning Action Cells Sessions— Learning Action Cell (LAC) sessions are a collaborative professional development practice where teachers gather to reflect on their teaching experiences, share best practices, and work together to solve educational challenges. LAC sessions have been a cornerstone of the Philippine Department of Education's initiatives to enhance teacher performance and student learning outcomes. Studies have shown that these sessions provide a structured environment for

continuous professional development, fostering a culture of collaboration among educators (Javier, 2019; Castillo Asas, 2020). Teachers report increased confidence in implementing new instructional strategies and improved student engagement as a result of their participation in LAC sessions (DepEd, 2019). Table 1 presents the extent to which Learning Action Cell (LAC) sessions serve as adaptation strategies in response to curriculum changes. The result focused on the highest and lowest mean ratings of indicators which are as follows; build a strong learning community that supports ongoing professional growth and collaboration, ultimately resulting in a more cohesive and effective response to curriculum changes and enhanced student achievement (4.61) is always manifested;. At the same time, both engage in reflective practice, continuously evaluating and refining their instructional approaches in response to curriculum modifications, leading to more effective teaching and better learning outcomes and allow educators to contextualize and adapt curriculum changes to the specific needs and realities of their classrooms, ensuring that the new curriculum is implemented in a way that is relevant and beneficial to their students (4.45) are also always manifested. The overall mean rating of 4.50 indicates that the adaptation strategies, in terms of learning action cells, are consistently employed, thus making them very extensive.

The consistently high mean scores across all items suggest that Learning Action Cell sessions are widely embraced as an essential professional development mechanism. They support teachers in navigating curriculum changes and promote sustained instructional improvement and enhanced student learning outcomes. The findings reinforce the importance of institu-

tionalizing and strengthening LAC sessions in educational reform and innovation as a strategic adaptation tool. Learning Action Cell (LAC) sessions are crucial in the Department of Education's professional development framework. Research indicates that these sessions significantly enhance teaching practices and student outcomes by cultivating a collaborative environ-

Table 1. Extent of Adaptation Strategies in Terms of Learning Action Cell Sessions

No	Learning Action Cells Sessions	Mean
Descriptive Equivalent		
1. Enable teachers to collaboratively learn and apply new instructional methods that align with curriculum changes, thereby enhancing their teaching efficacy and improving student learning outcomes.	4.54	Very Extensive
2. Foster a supportive environment where educators can share experiences and strategies, collectively addressing challenges associated with curriculum changes and promoting consistent and effective teaching practices across the school.	4.46	Very Extensive
3. Engage in reflective practice, continuously evaluating and refining their instructional approaches in response to curriculum modifications, leading to more effective teaching and better learning outcomes.	4.45	Very Extensive
4. Allow educators to contextualize and adapt curriculum changes to the specific needs and realities of their classrooms, ensuring that the new curriculum is implemented in a way that is relevant and beneficial to their students.	4.45	Very Extensive
5. Build a strong learning community that supports ongoing professional growth and collaboration, ultimately resulting in a more cohesive and effective response to curriculum changes and enhanced student achievement.	4.61	Very Extensive
Overall Mean	4.50	Very Extensive

ment among educators (Orleans, 2019; Salandanan, 2020). Teachers who participate in LAC sessions report increased confidence and proficiency in implementing new instructional strategies, resulting in higher student engagement and improved academic performance (DepEd, 2021). Globally, similar collaborative professional development models reflect the principles underlying LAC sessions. For example, Professional Learning Communities (PLCs) are widely adopted in the United States. According to DuFour et al. (2020), PLCs facilitate teacher collaboration, which enhances instructional methods and positively impacts student achievement. Likewise, in Australia, research by Jensen et al. (2020) highlights the effectiveness of teacher learning circles in boosting teacher morale and instructional quality, demonstrating outcomes comparable to those of LAC sessions. Studies conducted in various coun-

tries further reinforce the effectiveness of collaborative professional development. In Canada, Timperley (2021) found that teachers engaged in collaborative inquiry significantly enhanced their instructional practices and student learning outcomes. Similarly, in the United Kingdom, Cordingley et al. (2020) established that collaborative professional development initiatives contributed to improved teaching quality and student performance. Despite the recognized benefits, implementing LAC sessions and similar models presents several challenges. Common obstacles include scheduling difficulties, varying levels of teacher commitment, and the necessity for effective facilitation. A study by Vangrieken et al. (2021) emphasized that the success of these professional development sessions is mainly contingent on a school's dedication to fostering a culture of collaboration and ensuring adequate resources to support their im-

plementation.

3.1.2. Instructional Methods—Active learning strategies, which require students to participate actively in the learning process, have been widely researched. A meta-analysis by Freeman et al. (2020) revealed that active learning significantly enhances student performance across various disciplines. Similarly, Bonwell and Eison (2021) found that instructional techniques such as group work, problem-solving activities, and interactive discussions foster greater student engagement and improve knowledge retention. Table 2 presents the extent to which instructional methods serve as adaptation

strategies in response to curriculum changes.

The results focused on the highest and lowest mean rating which are as follows: supports the seamless implementation of curriculum changes and provides students with modern and relevant learning experiences (4.46) is always manifested; meanwhile, allows educators to effectively integrate curriculum changes, leading to increased student engagement and improved learning outcomes (3.93) is often-times manifested. The overall mean rating of 4.25 indicates that the adaptation strategies, in terms of instructional method, were consistently employed, making them pervasive.

Table 2. Extent of Adaptation Strategies in Terms of Instructional Method

No	Instructional Methods	Mean
Descriptive Equivalent		
1. Allows educators to effectively integrate curriculum changes, leading to increased student engagement and improved learning outcomes.	3.93	Extensive
2. Cater to the varied learning needs and styles of students, resulting in more personalized and effective learning experiences.	4.02	Extensive
3. Helps students better understand and retain new curriculum content, thereby enhancing their overall academic performance.	4.45	Very Extensive
4. Supports the seamless implementation of curriculum changes and provides students with modern and relevant learning experiences.	4.46	Very Extensive
5. Monitor and address student progress effectively, ensuring that curriculum changes lead to meaningful and measurable improvements in learning outcomes.	4.39	Very Extensive
Overall Mean	4.25	Very Extensive

With these results, integrating digital tools and online learning platforms has revolutionized traditional teaching methods, making education more dynamic and accessible. Research by Li and Lalani (2020) highlights how technology-enhanced learning facilitates personalized instruction and provides immediate feedback, ultimately leading to improved student outcomes. Bond et al. (2021) further support this claim, emphasizing the role of digital platforms in en-

hancing learning experiences. Differentiated instruction, which involves modifying teaching strategies to cater to individual student needs, has also been shown to positively impact student learning. Tomlinson (2019) emphasized that differentiation requires adjustments in content, processes, and learning products based on students' readiness levels, interests, and learning profiles. Furthermore, Deunk et al. (2020) found that differentiated instruction is particu-

larly effective in mixed-ability classrooms, fostering both equity and inclusion.

3.1.3. Collaboration and Support—One primary form of collaboration in education is through professional development programs such as Professional Learning Communities (PLCs) and Learning Action Cells (LACs). Research by Vescio, Ross, and Adams (2019) demonstrates that Professional Learning Communities (PLCs) significantly improve teaching practices by fostering a culture of continuous learning and shared responsibility among educators. Similarly, studies in the Philippines have demonstrated that LAC sessions offer a platform for teachers to collaboratively reflect on their practices, resulting in improved instructional strategies and enhanced student engagement (Orleans, 2020). Table 3 presents the contribution of collaboration and support to adapting cur-

riculum changes, as reflected in the mean scores and their corresponding descriptive equivalents. The result focuses on the highest and lowest mean rating which are as follows: provide teachers with practical guidance and feedback on implementing curriculum changes, enhancing their instructional practices and positively impacting student learning outcomes (4.41) is always manifested; and fosters a collaborative environment where teachers can collectively analyze student data, discuss challenges, and develop strategies to address curriculum changes, leading to improved instructional methods and better student outcomes (3.98) is oftentimes manifested. The overall mean rating of 4.18 indicates that adaptation strategies, particularly in terms of collaboration and support, are often manifested, thus making them extensive.

Table 3. Extent of Adaptation Strategies in Terms of Collaboration and Support

No	Collaboration and Support	Mean
Descriptive Equivalent		
1. Provide teachers with practical guidance and feedback on implementing curriculum changes, enhancing their instructional practices, and positively impacting student learning outcomes.	4.41	Very Extensive
2. Share resources and best practices, facilitating the successful adaptation to curriculum changes and ensuring consistent and effective teaching strategies across the school.	4.02	Extensive
3. Foster a collaborative environment where teachers can collectively analyze student data, discuss challenges, and develop strategies to address curriculum changes, leading to improved instructional methods and better student outcomes.	3.98	Extensive
4. Provide the necessary resources and encouragement to implement curriculum changes effectively, thereby enhancing overall educational quality and student achievement.	4.40	Very Extensive
5. Integrate curriculum changes across different subjects, promoting a holistic and cohesive learning experience for students that enhances their understanding and retention of new content.	4.08	Extensive
Overall Mean	4.18	Extensive

Peer mentoring and coaching are vital forms of support that help teachers adapt to new educational demands. A study by Hobson and

Maxwell (2020) highlights that peer mentoring fosters a supportive environment in which novice teachers can learn from experienced col-

leagues, thereby enhancing their teaching competencies and confidence. In the UK, research by Cordingley et al. (2021) found that coaching programs have a significant impact on teachers' professional development, leading to improved classroom practices and student outcomes. A study by Trust and Whalen (2021) revealed that these platforms enabled teachers to share resources, co-plan lessons, and support each other, which was crucial for adapting to remote teaching environments. This technological collaboration proved effective in maintaining instructional quality during the pandemic. Supportive school leadership is crucial for fostering a collaborative culture. Research by Leithwood, Harris, and Hopkins (2019) emphasizes that principals who promote collaborative decision-

making and provide necessary resources create an environment conducive to professional growth. In Australia, a study by Cranston (2021) found that supportive leadership has a significant influence on teachers' willingness to engage in collaborative practices and adapt to new teaching methodologies. Table 4 summarizes the extent of adaptation strategies used in implementing curriculum changes, as indicated by the mean scores and their corresponding descriptive equivalents. The results focused on the highest and lowest mean ratings, which are as follows: learning action cells (4.50) are consistently manifested, while instructional method (4.25) and collaboration and support (4.18) are often manifested.

Table 4. Summary of the Extent of Adaptation Strategies

No	Adaptation Strategies	Mean
Descriptive Equivalent		
1. Learning Action Cell Sessions	4.50	Very Extensive
2. Instructional Method	4.25	Very Extensive
3. Collaboration and Support	4.18	Extensive
Overall Mean	4.31	Very Extensive

The overall mean rating of 4.31 indicates that the extent of adaptation strategies is consistently evident; thus, it is very extensive. In line with this, teachers worldwide engage in continuous professional development and collaborative learning communities to stay abreast of new educational practices and curriculum changes. For instance, Learning Action Cell (LAC) sessions and professional learning communities (PLCs) provide platforms for teachers to share best practices and collaboratively solve problems, enhancing their instructional methods and adaptability (Darling-Hammond, Hyler, Gardner, 2019; OECD, 2020). Adapting teaching methods to be culturally responsive is essential in diverse international settings. Teach-

ers incorporate students' cultural backgrounds into their instructional practices, creating inclusive learning environments that respect and value diversity. This approach has been shown to improve student engagement and academic achievement (Gay, 2020; Sleeter, 2021).

3.2. Extent Of Learning Outcomes—Numerous studies have explored the impact of the K-12 curriculum on student performance. For example, Reyes and Castillo (2020) found that students enrolled in the K-12 program exhibited improvements in both academic and non-academic competencies. Their research highlighted enhanced problem-solving skills, greater engagement in learning activities, and increased student motivation. Similarly, Arzadon and

Nato (2021) investigated the effects of curriculum changes on learning outcomes in science and mathematics. Their study indicated that the revised curriculum contributed to improved student performance in these subjects, primarily due to the incorporation of interactive and hands-on learning strategies.

3.2.1. Student Engagement—The Philippines' K to 12 curriculum reform was designed to enhance student engagement by extending the basic education cycle and incorporating innovative learning approaches. Research by David et al. (2019) suggests that the program has positively impacted student engagement by promoting interactive and student-centered teaching strategies. This shift has led to increased participation and interest in classroom activities, ultimately resulting in better learning outcomes. Several studies have established a strong correlation between student engagement and academic performance. Reyes and Castillo (2020) found

that students who actively participate in learning activities tend to achieve higher academic success. Their research emphasizes that engagement enhances cognitive skills, motivation, and perseverance, which are crucial in a curriculum emphasizing higher-order thinking and problem-solving. Table 5 presents the extent to which student engagement indicates learning outcomes following curriculum changes. The result focused on the highest and lowest which are as follows: self-directed learning behaviors such as seeking additional resources and asking questions (4.70) is always manifested;. At the same time, participation in class discussions and activities, are indicators of learning outcomes as students are likely to internalize and understand new curriculum content (4.34) is also always manifested. The overall mean rating of 4.53 indicates that learning outcomes in terms of student engagement are consistently evident, making them very extensive.

Table 5. Extent of Learning Outcomes in Terms of Student Engagement

No	Student Engagement	Mean
Descriptive Equivalent		
1. Participation in class discussions and activities are indicators of learning outcomes as students are likely to internalize and understand new curriculum content.	4.34	Very Extensive
2. Genuinely motivated and show interest in the curriculum changes, it often leads to increased effort and persistence in their studies.	4.68	Very Extensive
3. Attendance and low dropout rates are indicators of student engagement, suggesting that the curriculum changes are resonating with students and meeting their educational needs.	4.48	Very Extensive
4. Student behavior and cooperative classroom dynamics reflect high engagement levels, which create a conducive learning environment that supports the successful implementation of curriculum changes and enhances student achievement.	4.45	Very Extensive
5. Self-directed learning behaviors such as seeking additional resources and asking questions.	4.70	Very Extensive
Overall Mean	4.53	Very Extensive

With these in mind, teacher practices play a crucial role in fostering student engagement. Bacani and Capili (2020) investigated the impact of various instructional strategies, including collaborative and project-based learning, on student engagement. The findings suggest that when teachers adopt these innovative practices, students are more likely to participate actively in their learning. This increased engagement is linked to higher academic achievement and better knowledge retention. Technology integration in education has been a significant factor in enhancing student engagement in the Philippines. Research by Francisco and Barcelona (2021) suggests that the use of digital tools and online platforms has made learning more interactive and accessible, thereby increasing student engagement. The study emphasizes that technology enables personalized learning experiences, which cater to individual student needs and preferences, further boosting their involvement in the learning process.

3.2.2. *Behavioral Modification*—Research has shown that positive behavioral modifications can significantly enhance academic perfor-

mance. A study by Bacani and Capili (2020) found that students who exhibited improved behavior, such as increased attention and participation in class, achieved higher academic scores. The study suggests that behavioral changes, facilitated by the new curriculum, create a more conducive learning environment that supports academic success. Table 6 examines the extent to which behavior modification indicates learning outcomes in response to curriculum changes. The results showed the highest and lowest mean rating which are as follows: embrace challenges and persist in the face of setbacks, reflect an adaptive response to curriculum changes that promotes resilience and a continuous improvement approach (4.69) is always manifested, while, collaborative peer interactions demonstrate the social benefits of curriculum changes, which can enhance group learning experiences (4.03) is oftentimes manifested. The overall mean rating of 4.39 denotes that learning outcomes in terms of behavior modification are consistently manifested, thus, it is very extensive.

Table 6. Extent of Learning Outcomes in Terms of Behavior Modification

No	Behavioral Modification	Mean
Descriptive Equivalent		
1. Attentiveness and reduced disruptive behavior	4.61	Very Extensive
2. Self-regulation and discipline in response to new curriculum demands, they are more likely to engage in productive study habits and maintain consistent academic performance.	4.53	Very Extensive
3. Completing assignments on time and actively participating in class suggest that the curriculum changes are fostering a more proactive and engaged learning attitude.	4.10	Extensive
4. Collaborative peer interactions demonstrate the social benefits of curriculum changes, which can enhance group learning experiences.	4.03	Extensive
5. Embrace challenges and persist in the face of setbacks, reflect an adaptive response to curriculum changes that promotes resilience and a continuous improvement approach.	4.69	Very Extensive
Overall Mean	4.39	Very Extensive

Teachers play a crucial role in facilitating behavioral modifications. A study by Santos and Concepcion (2019) highlighted that teachers who employ positive reinforcement and create supportive classroom environments see significant improvements in student behavior. These behavioral changes are linked to better learning outcomes, as students are likelier to engage in and enjoy their learning experiences. Despite the positive impacts, several challenges affect the successful implementation of behavioral interventions. Espino et al. (2019) state that large class sizes, inadequate teacher training, and insufficient resources can hinder efforts to modify student behavior effectively. The study emphasizes the need for comprehensive teacher training programs and sufficient resources to support behavioral interventions.

3.2.3. Achievement of General Scholastic Average—Assessment practices under the K to 12 curriculum have evolved to measure the achievement of learning objectives more effectively. Tan and Bernardo (2019) highlighted the shift towards formative assessments, which provide continuous feedback to students and allow for the adjustment of instructional strategies. This approach has been shown to improve

Teacher preparedness ensures students achieve their general scholastic average by effectively meeting learning objectives. Bacani and Capili (2020) investigated the impact of professional development programs on teachers' ability to implement the K-12 curriculum. They found that well-trained educators are more effective in guiding students toward academic success. Their study highlights that teachers with adequate preparation and training can deliver curriculum content more effectively, provide targeted interventions, and assess student progress, ultimately contributing to higher scholastic performance. However, several challenges hinder students' ability to consistently achieve their

student understanding and mastery of learning objectives, focusing on ongoing learning rather than solely on summative evaluations. Reyes and Castillo (2020) conducted a longitudinal study demonstrating that students who consistently meet the curriculum's learning objectives exhibit higher academic performance and are better prepared for subsequent educational levels. The study emphasizes the importance of aligning teaching methods and assessments with the curriculum's objectives to ensure comprehensive student development. Table 7 presents the extent to which students' general scholastic average indicates learning outcomes following curriculum changes. The results show the highest and lowest mean rating which are as follows: mastering core competencies outlined in the new curriculum (4.57) is always manifested; and ability of students to respond positively to feedback and show continuous improvement towards achieving learning objectives suggests that curriculum changes are fostering a supportive and effective learning environment (4.50) is always manifested. The overall mean rating of 4.53 denotes that learning outcomes in terms of achieving a general scholastic average are consistently manifested, thus, it is very extensive.

expected general scholastic average. Espino et al. (2019) identified barriers such as insufficient instructional materials, large class sizes, and varying levels of teacher expertise as significant factors affecting student performance. These challenges can limit individualized instruction, reduce student engagement, and affect assessment accuracy, making it difficult for students to reach their full academic potential. Addressing these issues is crucial to ensuring equitable learning opportunities and supporting students in meeting the academic standards outlined in the curriculum. Strengthening teacher training programs, providing adequate learning resources, and implementing strategies to manage

Table 7. Extent of Learning Outcomes in Terms of Achieving General Scholastic Average

No	Achievement of General Scholastic Average	Mean
Descriptive Equivalent		
1. Mastering core competencies outlined in the new curriculum	4.57	Very Extensive
2. Learning objectives that align with assessment standards and benchmarks reflects that curriculum changes are being effectively implemented and are meeting the intended educational goals.	4.52	Very Extensive
3. Students can apply newly acquired knowledge and skills to real-world situations and problem-solving scenarios.	4.52	Very Extensive
4. Progress in both formative and summative assessments, aligned with learning objectives, demonstrates that students are meeting the desired educational targets set by the new curriculum.	4.55	Very Extensive
5. Ability of students to respond positively to feedback and show continuous improvement towards achieving learning objectives suggests that curriculum changes are fostering a supportive and effective learning environment.	4.50	Very Extensive
Overall Mean	4.53	Very Extensive

large class sizes can help schools create a more supportive learning environment that enhances students' ability to achieve their general scholastic average and perform successfully across subject areas. Table 8 summarizes the extent of learning outcomes as measured by student engagement, behavior modification, and achievement of the general scholastic average. The results highlight the highest and lowest mean rating which are as follows: student engagement (4.53), achievement of general scholastic average (4.53), and behavior modification (4.39) are all always manifested.

Table 8. Summary of the Extent of Learning Outcomes

No	Learning Outcomes	Mean
Descriptive Equivalent		
1. Student Engagement	4.53	Very Extensive
2. Behavior Modification	4.39	Very Extensive
3. Achievement of General Scholastic Average	4.53	Very Extensive
Overall Mean	4.48	Very Extensive

The overall mean rating 4.48 denotes that the extent of learning outcomes is always manifested, hence, it is very extensive. In line with this, Arzadon and Nato (2021) explored the effects of curriculum changes on student learning outcomes in science and mathematics. Their findings indicate that the revised curriculum has improved student performance, primarily due to incorporating interactive and hands-on learning approaches. However, the study also underscores the need for continuous curriculum evaluation and support to address challenges

in its implementation. Despite these positive outcomes, several obstacles persist. Espino et al. (2019) identified inadequate infrastructure, limited access to learning materials, and insufficient professional development for teachers as significant barriers to the effective implementation of curriculum changes. These challenges have particularly impacted schools in remote and underserved areas, affecting the consistency and quality of instruction. The role of teachers in adapting to curriculum modifications is crucial. Bacani and Capili (2020) emphasize that ongoing professional development and institutional support are essential for educators to implement curriculum changes effectively. Their study highlights the significance of Learning Action Cells (LACs) as collaborative platforms that facilitate professional growth and knowledge-sharing among teachers, ultimately enhancing instructional practices. Assessment strategies have evolved alongside curriculum changes. Tan and Bernardo (2019) observed a shift towards formative assessments, which

focus on providing continuous feedback to students. This approach has been shown to enhance student learning outcomes by identifying specific areas for improvement and guiding instructional adjustments, ensuring that teaching practices remain responsive to student needs.

3.3. Relationship between Adaptation Strategy and Learning Outcomes—Table 9 presents the statistical relationship analysis between adaptation strategies and learning outcomes. The computed r-value of 0.808 indicates a strong positive correlation between the two variables, suggesting that implementing adaptation strategies is significantly associated with improved learning outcomes. The p-value (<0.001) is well below the significance threshold of $p < 0.05$, confirming that the observed relationship is statistically significant. Consequently, the null hypothesis (H_0), which posits that there is no significant relationship between adaptation strategies and learning outcomes, is rejected.

Table 9. Relationship Between Adaptation Strategy and Learning Outcomes

Variables	r-value	p-value	Interpretation
Decision			
Adaptation Strategy	0.808	<0.001	Significant
Reject H_0			

The strong positive correlation suggests that as adaptation strategies such as instructional modifications, teacher collaboration, and professional development initiatives are effectively implemented, student engagement, academic performance, and behavioral outcomes improve. This finding aligns with previous research indicating that flexible and responsive teaching approaches enhance student achievement and overall learning experiences (Reyes Castillo, 2020; Bacani Capili, 2020). Moreover, the significance of this relationship underscores the necessity of continuous curriculum assessment and

support for educators to ensure that adaptation strategies are (Espino et al., 2019). Schools and policymakers may consider investing in teacher training programs, collaborative learning initiatives, and resource development to maximize the impact of these strategies on student success.

]Domains of Adaptation Strategy that Significantly Influence Learning Outcomes

Table 10 presents the results of a regression analysis examining the impact of various adaptation strategies on learning outcomes. The adjusted R^2 value of 0.653 suggests that 65.3

percent of the variance in learning outcomes can be explained by the included adaptation strategies, indicating a strong predictive relationship. The F-value of 54.298 and the corresponding

p-value (<0.001) confirm the statistical significance of the model at $p < 0.05$, demonstrating that at least one of the adaptation strategies significantly influence learning outcomes.

Table 10. Adaptation Strategies that Significantly Influence Learning Outcomes

Model	Unstandardized	Standard Error	Standardized	t	p	Decision
M	(Intercept)	4.490	0.038		117.112	< 0.001
Reject Null						
M	(Intercept)	0.160	0.393		0.407	0.685
Accept Null						
	LAC Session	0.379	0.060	0.482	6.274	< 0.001
Reject Null						
	Instruction Method	0.210	0.088	0.172	2.376	0.020
Accept Null						
	Collab Support	0.413	0.081	0.368	5.131	< 0.001
Reject Null						
Adjusted R²					0.653	
F-value					54.298	
p-value					0.001	

Among the predictors, Learning Action Cell (LAC) sessions emerged as a statistically significant factor ($= 0.482$, $t = 6.274$, $p < 0.001$), leading to the rejection of the null hypothesis. This finding underscores the crucial role of collaborative learning and professional development among teachers in enhancing instructional effectiveness and student achievement. The result aligns with previous research suggesting that LAC sessions provide a platform for continuous improvement, knowledge sharing, and adaptation to curriculum changes (Bacani Capili, 2020). The structured nature of these sessions allows teachers to refine their teaching strategies, ensuring that students receive high-quality instruction tailored to the demands of the revised curriculum. Similarly, collaboration and support were found to be significant predictors of learning outcomes ($= 0.368$, $t = 5.131$, $p < 0.001$). This result highlights the importance of institutional support, resource-sharing, and peer mentorship in facilitating effective curricu-

lum adaptation. Schools that invest in strong collaborative networks among educators and administrators are likelier to foster environments where teachers feel equipped to navigate curriculum changes and implement best practices effectively (Espino et al., 2019). These findings emphasize that a well-supported teaching workforce and a culture of collaboration significantly contribute to improved student engagement and academic performance beyond individual instructional methods. In contrast, instructional methods did not show a statistically significant influence on learning outcomes ($= 0.172$, $t = 2.376$, $p = 0.020$), leading to the acceptance of the null hypothesis. While instructional methods remain a key component of teaching and learning, this result suggests that other adaptation strategies, particularly those involving collaboration and professional support, may substantially impact student outcomes. The effectiveness of instructional methods may also depend on how well teachers are prepared and sup-

ported in implementing them (Arzadon Nato, 2021). These findings highlight the need to further examine instructional strategies to determine how they can better align with curriculum goals and student needs. The results suggest that LAC sessions and collaboration/support mechanisms are crucial in enhancing learning outcomes, while instructional methods alone may not be sufficient without proper institutional backing. To further improve student

performance, schools should strengthen professional development programs, enhance collaborative learning communities, and ensure that teachers have access to necessary resources and guidance. Reinforcing these adaptation strategies, educational institutions can create a more effective and responsive learning environment, leading to sustained improvements in student engagement, academic performance, and overall curriculum implementation.

4. Conclusions and Recommendations

In this chapter, the conclusions and recommendations are presented based on the analyzed and discussed data, as well as the implications drawn from the findings. The findings are derived from the articulated statement of the problem, while the conclusions are drawn from the resultant findings. The recommendations, in turn, are formulated based on the implications gleaned from the discussions.

4.1. Findings—The following are the study's findings, based on the results presented, analysis, and discussions. The extent of Adaptation Strategies, in terms of learning action cell sessions and instructional methods, is highly evident, while collaboration and support are also evident. The extent of learning outcomes, in terms of student engagement, behavior modification, and achievement of the general scholastic average, is highly evident. Pearson's Correlation generated a significant correlation between adaptation strategy and learning outcomes. Domains of adaptation strategies, including learning action cell sessions, collaboration, and support, suggest a significant influence over learning outcomes.

4.2. Conclusions—Given the findings of the study presented, the following are the conclusions: The extent of Adaptation Strategies, in terms of learning action cell sessions and instructional methods, was highly extensive, while collaboration and support were also extensive. The extent of learning outcomes regarding student engagement, behavior modification, and achievement of the general scholastic av-

erage was extensive. A significant relationship exists between adaptation strategy and learning outcomes. Domains of adaptation strategies, including learning action cell sessions, collaboration, and support, suggest a significant influence over learning outcomes. Educators' use of adaptive teaching strategies is crucial for boosting student achievement. Adaptive teaching strategies enable teachers to analyze and adapt to their students' diverse needs continually, resulting in more personalized and effective learning environments. These techniques, which include learning action cell sessions, instructional methods, and collaboration and support, encourage enhanced student engagement, higher academic attainment, and more inclusive classrooms. By being flexible and sympathetic, teachers ensure that all students, regardless of background or aptitude, have the opportunity to succeed. In addition to this, constructivism encourages the effectiveness of these adaptive strategies by emphasizing the importance of active, student-centered learning. When educators employ constructivist principles, such as scaffolding, inquiry-based learning, and collabora-

tive activities, they foster a deeper understanding and encourage critical thinking. Adaptive teaching aligns with constructivist ideas, ensuring that students are active participants in their educational journey rather than passive recipients of information. When combined, these strategies will underscore the importance of effective adaptation in teaching for achieving meaningful and long-term learning outcomes.

4.3. Recommendations—With the conclusions presented in this study, the following are recommendations, to wit;

Learners

They can actively engage in the learning process by communicating their needs, actively participating in class sessions, and embracing diverse instructional approaches. Furthermore, they must take advantage of the various learning opportunities provided by their teachers, such as group work, technology-based tasks, and other hands-on activities, as these are often tailored to accommodate different learning styles and enhance the curriculum.

Teachers

Actively participating in LAC sessions, adopting differentiated instruction, and integrating student-centered learning approaches are crucial for meeting diverse learning needs. Leveraging technology for instructional improvement and using interactive teaching strategies can further support student engagement and

academic success.

Public School District Supervisor

Strengthening professional development programs, particularly Learning Action Cell (LAC) sessions, is crucial for equipping teachers with the necessary skills for adapting to the curriculum. Providing adequate instructional materials, monitoring curriculum implementation, and promoting inter-school collaboration can further support effective teaching and learning.

School Principal

Fostering a collaborative learning culture among teachers through mentorship programs and interdisciplinary teaching approaches is recommended. Allocating resources for instructional innovation, reinforcing student engagement initiatives, and supporting evidence-based teaching practices can enhance the implementation of curriculum changes.

Future Researcher

Exploring the long-term impact of adaptation strategies, assessing student experiences and coping mechanisms, and evaluating the role of digital tools in curriculum adaptation are areas that warrant investigation. Further research on the effectiveness of educational policies in supporting adaptation strategies can provide valuable insights for educators and policymakers.

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