

Analysis of Vertical and Horizontal Articulation in Teaching of Social Studies

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Abstract

This research examined how vertical and horizontal articulation were implemented in the instruction of Social Studies to promote curriculum coherence and learning outcomes among students. It was also intended to determine efficient strategies that ensured seamless grade transition, and in the same grade, responding to fragmented learning experiences. It further attempted to investigate challenges encountered by secondary Social Studies teachers in the Infanta District in terms of vertical and horizontal articulation. The participants consisted of ten junior high social studies teachers from grades 7 to 10 in the Infanta District who were selected for this qualitative multiple-case study using purposive sampling. Summative content analysis was used to identify key themes and patterns in their articulation practices. The results indicated that vertical articulation ensured subject continuity across grades, while horizontal articulation improved interdisciplinary consistency within the same grade level. Teachers implemented scaffolded lesson preparation, flexible teaching methods, and varied assessment procedures to address knowledge gaps and strengthen mastery. These practices were reinforced by integrating Bruner's Spiral Curriculum and Tyler's Curriculum Development models to ensure better curriculum alignment and student engagement. The research found that effective articulation was essential in developing an integrated and coherent learning experience in Social Studies learning. When it was implemented systematically, articulation eliminated instructional fragmentation, enhanced knowledge retention, and facilitated prolonged academic development. Theoretical explanations directed practical applications, emphasizing the significance of teacher collaboration and ongoing professional development. Recommendations involved enhancing curriculum mapping, reflective teaching, and systematic training programs for effective articulation practices to prepare students for future academic challenges.

Keywords: Vertical Articulation; Horizontal Articulation; Social studies

1. Introduction

In Social Studies instruction, it is imperative to present learners with a consistent and coherent learning experience. The most effective way to attain consistency is through strong curriculum articulation, which involves vertical and horizontal alignment strategies (John & Aliyu, 2024). Vertical articulation ensures that learning progresses logically from one grade level to the next, whereas horizontal articulation coordinates instruction within the same grade level across subjects and among educators (Ornstein & Hunkins, 2018). Both articulation types ensure a smooth learning process, minimize content redundancy, and facilitate the development of critical and higher-order thinking skills (Kennedy, 2022). Consequently, Social Studies as a discipline fosters civic consciousness, historical literacy, and global understanding, primarily through the benefits of articulation in an organized manner. Vertically aligned, social studies teaching builds on what the learner already knows in an organized and developmental fashion, enabling learners to incrementally access more elaborate issues of society (Wiggins & McTighe, 2005). In the meantime, horizontal articulation enables interdisciplinarity, particularly across subjects such as Language Arts and Science, thereby maximizing instructional coherence and learning in context (Beane, 2020). This study aimed to gain a deeper understanding of what curriculum alignment within and across grade levels means to Social Studies teachers by examining how they define the terms vertical and horizontal

articulation. To support subject progression and coherence, it also sought to explore how these teachers implement vertical and horizontal articulation in their instruction, including lesson sequencing and coordination across grade levels. Furthermore, this study aimed to examine the specific teaching practices employed by Social Studies teachers, which underpin these articulation practices, including interdisciplinary methods, inquiry-based learning, and scaffolding instruction. By examining these factors, the study aims not only to determine areas of strength and weakness in existing practices but also to provide recommendations that can lead to more effective curriculum alignment, instructional quality, and more relevant and meaningful learning experiences for Social Studies learners.

1.1. Statement of the Problem

This research focused on the examination of vertical and horizontal articulation in the instructional practices of secondary Social Studies teachers in public schools in Infanta, Quezon. The study aimed to describe and explore teachers' experiences related to the definition, application, and instructional approaches they use in advancing vertical and horizontal articulation of the Social Studies curriculum. In particular, the study aimed to answer the following research question:

1. How do Social Studies teachers describe vertical and horizontal articulation?
2. How do Social Studies teachers implement vertical and horizontal articulation in their teaching?
3. What teaching strategies do Social Studies teachers employ concerning vertical and horizontal articulation?

1.2. Significance of the Study

This study will be of great significance to the following individuals. *To the Students.* The outcomes of this study can assist in a more progressive and smoother learning experience for social studies students. A stated curriculum ensures that concepts and skills are cumulative, providing students with a more comprehensive understanding of the subject matter. *To the Researcher.* The researcher can then analyze how social studies educators approach the topic in terms of vertical and horizontal articulation, allowing her to develop new teaching strategies. *To Social Studies Teachers.* For teachers, the results of this analysis can serve as a reference in developing more unified and coordinated lesson plans. Knowledge of how vertical and horizontal articulation affect the social studies curriculum allows instructors to develop more integrated and developmental student learning. This research can also provide teachers with insight into potential areas of redundancy or gaps in the curriculum, allowing them to make informed changes that maximize the overall cohesion and efficiency of their instruction. *To the Future Researcher.* This research presents a model to explore the complexities of curriculum planning and educational development, particularly in the context of social studies. The future researcher can further develop the theoretical groundwork laid out here to explore the issues of articulation and its effects on different subjects, offering a greater insight into curriculum planning. *To the Administrators.* This research can inform administrative actions in curriculum development and teacher professional growth, ultimately leading to an improvement in the learning and teaching environment. Additionally, having a deeper understanding of vertical and horizontal articulation in social studies can help administrators promote cooperation among teachers, align objectives, and implement techniques that support an improved, integrated, and efficient social studies program. Through sound decision-making, administrators can significantly enhance the instructional experience and outcomes of teachers and students of social studies.

2. Methodology

This study employed a descriptive qualitative research methodology with a multiple case study approach to investigate horizontal and vertical articulation strategies in Social Studies education at three public secondary schools. According to Lambert and Lambert (2012), the qualitative descriptive method is highly beneficial for researchers seeking to ascertain the participants, elements, and locations related to events to provide a thorough summary of specific experiences encountered by individuals or groups. The multiple case study approach is an empirical research method that explores a current occurrence in its real-life context, utilizing numerous sources of information to facilitate extensive comparison across diverse contexts (Yin, 2017). This method was used to gain a comprehensive, contextualized understanding of how Social Studies teachers conceive, practice, and interpret articulation within the curriculum.

The research was conducted in the District of Infanta, Quezon, which consisted of three public secondary

schools in town: Infanta National High School, Binulasan Integrated School, and Langgas National High School. Infanta National High School, the largest public secondary school in Infanta, is located at Ruanto St., Poblacion 38, Infanta, Quezon. Second is the BIS or Binulasan Integrated School, one of Infanta's public barangay high schools, formerly known as Binulasan National High School. It is located in Barangay Binulasan, Infanta, Quezon. It is the second-largest public secondary school in the town. Lastly, Langgas National High School is the smallest barangay high school in Infanta and is the oldest barrio high school located in Barangay Langgas, Infanta, Quezon. Purposive sampling was employed in this study, a technique commonly used in qualitative research that involves the deliberate selection of participants to address the specific research problem (Etikan et al., 2016). Similarly, according to Rai and Thapa (2015), it is a type of non-probability sampling where the researcher selects individuals for the sample based on various criteria, which may include specialized knowledge of the research topic or the ability and willingness to participate in the study. The participants were Junior High School Social Studies teachers who taught grades 7 through 10, chosen for their active involvement in curriculum delivery and implementation. The study was carried out at three public secondary schools in Infanta, Quezon: Infanta National High School, Binulasan Integrated School, and Langgas National High School. Participation was entirely voluntary, with questionnaires administered in a way that respected participants' time and preferences. Anonymity was maintained throughout to protect participant identities in all research materials.

3. Results and Discussions

Table 1
Description of Vertical Articulation in Teaching Social Studies

Theme	Description	Grade 7	Grade 8	Grade 9	Grade 10	Total (f)
Coherent Learning Progression	Curriculum is structured to build on prior knowledge and ensure continuity.	1	0	1	2	4
Multidisciplinary Assessment and Skills Transfer	Use of multi-assessment strategies across levels (e.g., dramatization, paper-pencil test).	1	1	0	0	2
Integration with Other Subjects	Topics are made understandable by linking with other disciplines (e.g., Math, Science, MAPEH).	0	2	0	0	2
Competency Mastery and Curriculum Alignment	Emphasizes mastery of competencies through vertically aligned standards.	0	0	2	1	3
Teaching Methodology and Complexity	Vertical articulation helps move from basic to complex concepts across grade levels.	0	0	0	3	3

Table 1 provides a clear overview of how vertical articulation is implemented in the teaching of Social Studies across different educational levels. The table shows a progression of content from foundational topics in early grades to more complex and analytical concepts in higher levels. At the primary stage, instruction focuses on basic civic concepts, community awareness, and the development of national identity. As students move to middle and high school levels, there is a noticeable transition toward critical analysis of historical events, economic structures, and global interdependence. This sequential build-up reflects a thoughtful structure where each grade level serves as a preparatory step for the next, ensuring coherence in the subject matter and skill development. Participant 1 recognized this coherence, sharing that vertical articulation “allows students to dive into their material and truly form an intelligence,” emphasizing its logical progression. Participant 8 added that this progression enhances “complexity and depth of understanding,” supporting that earlier learning forms a necessary base for advanced learning. Furthermore, Participant 6 stressed that vertical articulation should be “meticulously planned” so students can connect prior and new information, highlighting the importance of intentional instructional design. The development depicted corresponds to John and Aliyu's (2024) perspective of articulation as a systematic and intentional process that maintains curriculum continuity. The conclusions corroborate Acquah and Owusu (2021),

who highlighted that vertical articulation orders lessons logically to facilitate learning development in the long term. This table shows that Social Studies material is not stand-alone within grade levels but is intentionally linked, supporting Kannan's (2016) and Ornstein and Hunkins' (2018) statement that successful vertical articulation does not repeat but enhances conceptual knowledge. Just like Suh and Seshaiyer's (2015) study in mathematics, the table indicates that Social Studies instruction also gains from organized continuity, allowing instructors to cumulatively build on learners' existing knowledge. This reiterates the fact that enunciated curricula are imperative for holistic and progressive education.

According to the findings in Table 1, teaching social studies with vertical articulation promotes a coherent and significant learning environment. Students are better equipped to think critically and apply their information in real-world situations when each grade builds on the competencies they have acquired in prior years. This has significant implications for educators and curriculum designers: to prevent fragmented learning, the instructional design must give priority to sequencing and progression. Both theoretical and practical significance are highlighted by the results, which directly address the study's goal of enhancing instructional coherence through articulation. Constructivist learning models, which build knowledge gradually, are theoretically supported by it. In practice, this means that ongoing curriculum evaluation and teacher training are necessary to maintain this congruence. Maintaining vertical coherence is essential for educational quality and student achievement, as our research confirms, in line with Acquah and Owusu's (2021) warning about the dangers of weak vertical articulation in Ghana.

Table 2
Concept and Implementation of Horizontal Articulation in Social Studies

Theme	Description	Grade 7	Grade 8	Grade 9	Grade 10	Total (f)
Interdisciplinary Integration	Connecting Social Studies to other disciplines like Science, Math, Economics, etc.	1	2	3	2	8
Collaboration with Teachers Across Subjects	Working with colleagues across disciplines to align curriculum and teaching practices.	1	0	0	2	3
Differentiated Instruction	Adjusting teaching to suit different student inclinations and learning needs.	1	0	0	1	2
Use of Higher-Order Thinking Skills (HOTS)	Use of HOTS questions to enhance horizontal links and deepen understanding.	0	1	1	0	2
Curriculum Consistency at the same Grade Level	Ensuring coherence and content alignment across the same grade level.	0	0	0	1	1

Table 2 presents the concept and implementation of horizontal articulation in the teaching of Social Studies across various grade levels. The data reveal that teachers consistently strive to integrate Social Studies content with other subjects such as economics, geography, history, and even science and arts, all within the same grade level. Participant responses reinforce this, with Participant 1 noting how “horizontal articulation brings together a team of educators teaching the same content”, while Participant 2 highlights the “use of differentiated instruction and curriculum integration” to respond to diverse student needs. Teachers in Grades 8 and 9 emphasized “the use of higher-order thinking skills (HOTS) and connecting disciplines like economics and politics through questioning strategies and activity-based learning. Participants 4–7. Participant 8 further “stressed collaborative planning and interdisciplinary project design”, while Participant 9 noted, “Integration enhances interaction and demands strong content mastery”. These responses collectively show that horizontal articulation is not just a theoretical idea but a living practice within classrooms, shaped by teacher collaboration and active curriculum integration.

The results concur with curriculum articulation literature. As John and Aliyu (2024) underscored, articulation is the conscious synchronization of content and teaching across subjects to ensure a seamless learning experience. Horizontal articulation, according to Kannan (2016), facilitates coherence through linking congruent

ideas across grade levels in the same discipline. That of Ollila and Macy (2019) also support this with an emphasis on the worth and shared difficulties of horizontal articulation in Social Studies, particularly concerning teacher training and time issues. These tendencies in Table 2 thus mirror such scholarly agreement: where there is professional development and collaborative planning, horizontal articulation is stronger and more effective. On the other hand, where these factors are absent, alignment is weaker, and there is a loss of potential for interdisciplinary learning.

The findings in Table 2 indicate that horizontal articulation, with proper implementation, increases the integration and appropriateness of Social Studies with the rest of the curriculum. This has the implication that the promotion of interdisciplinary relationships can significantly benefit students' learning experiences, facilitating both the cognitive and application aspects of knowledge. The findings affirm the research's goals of exploring articulation practices and their consequences on teaching effectiveness. In theory, this supports Ornstein and Hunkins' (2018) contention that curriculum needs to be articulated to achieve cohesion and applicability. In practice, the evidence requires institutional support processes like teachers' collaborative time, professional development, and curriculum mapping resources. These are required in order to overcome implementation barriers and ensure that horizontal articulation is not left to chance but incorporated within planning processes. This has significant implications for educational policy and practice, particularly in enhancing the quality and coherence of Social Studies education.

Table 3
Assessment of Vertical and Horizontal Articulation Effectiveness

Theme	Description	Grade 7	Grade 8	Grade 9	Grade 10	Total (f)
Performance- based Assessment	Use of paper-pencil tests, projects, recitations, and real- world application.	1	0	2	2	5
Multi-dimensional Assessment (MDAT)	Application of various assessment forms like multiple-choice, differentiated tasks.	1	1	0	0	2
Observation and Feedback	Observing student progress, peer feedback, and analysis of connections made across disciplines.	0	0	1	2	3
Real-world Application and Relevance	Assessing how students apply knowledge in real-life contexts.	0	1	2	2	5
No Formal Assessment	Not formally assessed; depends on subject nature (e.g., K-12 AP is horizontally articulated).	0	0	1	0	1

Table 3 presents the assessment of vertical and horizontal articulation effectiveness in the teaching of Social Studies, based on responses from teachers across Grades 7 to 10. The data reflect generally positive views on vertical articulation, especially in how content progresses logically across grade levels, while horizontal articulation linking concepts across subjects within the same grade was observed to be less consistently practiced. For example, Participant highlighted “the importance of ensuring content continuity to minimize disparities in learning”, while Participant 2 mentioned “using MDAT-type questions to bridge both articulation types”. Similarly, Participants 3 and 4 emphasized the “value of connecting lessons with other disciplines like Science and MAPEH,” and tailoring instruction to varied learning styles. However, Participant 5 stated that “vertical articulation is not practiced in Araling Panlipunan (AP)”, underlining discrepancies in curriculum design. Participants 6 to 10 shared various strategies for assessing articulation, ranging from oral recitations, test analyses, and project evaluations to student feedback and real-life applications, pointing to a diverse and practice-based understanding of articulation effectiveness.

These results echo John and Aliyu (2024) and Kannan (2016), who stressed that articulation involves aligning both the curriculum and instruction at both levels and between disciplines to assure learning coherence. Since the table reflects a more vertical than horizontal articulation, it parallels Acquah and Owusu's (2021) and Hassanpour et al.'s (2017) findings that vertical articulation is more intentional and structured, frequently growing cumulatively on earlier acquired knowledge. Conversely, Ollila and Macy (2019) mentioned that horizontal articulation is hampered by implementation challenges like minimal teacher training and lack of time, which also manifest in the less effective interdisciplinary linkages seen in the current results. This suggests that despite awareness of its value, horizontal articulation requires more systemic support for successful execution.

The findings point to a key observation: although vertical articulation seems to be in good shape, horizontal articulation is underdeveloped. That means that though students gain from a well-organized sequencing of material from grade level to grade level, they might not reap the full rewards of cross-disciplinary integration, enhancing understanding and application. These results squarely speak to the research goal of measuring articulation effectiveness in Social Studies and indicate a primary area in need of improvement. Theoretically, this resonates with Ornstein & Hunkins' (2018) contention that articulation must take place in both directions for a curriculum to make sense and be coherent. Practically, it demands strategic professional development and school policies that enable teachers to plan in concert across subjects. Enhancing horizontal articulation along with vertical alignment has the potential to give students a more integrated and context-specific learning experience, ultimately enriching learning outcomes and promoting deeper learning.

Table 4
Challenges in Implementing Horizontal Articulation in Teaching Practices

Theme	Description	Grade 7	Grade 8	Grade 9	Grade 10	Total (f)
Coordination & Scheduling Conflicts	Difficulty in collaborative planning due to time/scheduling constraints.	0	1	0	2	3
Lack of Resources and Technological Limitations	Inadequate tools, funding, or teacher readiness (e.g., non- tech savvy).	1	0	0	1	2
Difficulty in Conceptual Integration	Challenge in blending topics meaningfully without confusing students.	0	1	2	1	4
Learner Misalignment	Students unable to grasp connections or schema across subjects.	0	1	1	1	3
No Challenges Reported	Some teachers find no issues, citing Social Studies' inherently interdisciplinary nature.	0	0	1	0	1

Table 4 outlines several pressing challenges teachers encounter in implementing horizontal articulation in teaching practices. Among the most cited issues are the lack of collaborative planning time, inconsistent curriculum standards across subjects, limited training in interdisciplinary strategies, and constraints related to resources and teacher preparedness. For example, Participant 1 pointed out the "lack of funding, especially in public school settings", which limits the implementation of interdisciplinary approaches. Participants 4 and 8 echoed similar sentiments, highlighting difficulties in coordinating with colleagues across different subject areas due to conflicting schedules and differing priorities". In contrast, Participant 5 shared that "they face no significant challenges", noting that Social Studies is inherently multidisciplinary. Yet, others like Participant 6 described the process as "very challenging," requiring careful integration to avoid confusing students. These individual perspectives collectively underscore how horizontal articulation depends on structured support, shared planning, and instructional adaptability. The participants' observations are in line with current literature. Ollila and Macy (2019) highlight that although teachers understand the importance of interdisciplinary teaching, they do not have the time and institutional resources to accomplish it successfully echoed in Participant 4's worry regarding the collaboration issues. Likewise, Participant 9 mentioned "technological difficulties", indicating that resource constraints are not only in terms of time but also digital literacies and tools. This corroborates Kannan's (2016) reasoning that curriculum articulation does not work if logistical and instructional coherence does not exist. Participant 10 also recounted "how students at times cannot connect the relevance among subjects," a concern covered by Brant et al. (2016), who emphasized the value of thoughtfully conceptualized curriculum structures. In addition, Participant 2 highlighted the "evaluation of competencies in line with Social Studies' horizontal nature", which is a direct indication of John and Aliyu's (2024)

concept of interconnected curriculum planning. Therefore, both the qualitative findings and the literature meet in recognizing institutional, pedagogical, and perceptual barriers to horizontal articulation.

The difficulties enumerated in Table 4 indicate that horizontal articulation, though well-acknowledged as significant, is frequently undermined by systemic problems in its practice. This has consequent implications for educational attainment. Without teachers having the capacity to coordinate, students endure disjointed learning, which can be limiting in their capacity to make meaningful connections between subjects. Theoretically, this goes against the aspiration of an integrated learning process, as referenced by John and Aliyu (2024) and Ornstein & Hunkins (2018), in which learners ought to be led through interrelated knowledge structures. Practically, it suggests the necessity for institutional reforms like inherent periods of collaboration, consolidated curriculum frameworks, and ongoing teacher training to ensure horizontal articulation becomes possible. It directly tackles these problems, aligning itself with the research aim to enhance teaching quality and curriculum coherence, supporting the necessity for interventions with a specific focus to bridge classroom practices across grades and subjects.

Table 5

Strategies Used to Incorporate Vertical Articulation into Lesson Plans

Theme	Description	Grade 7	Grade 8	Grade 9	Grade 10	Total (f)
Scaffolded progression	Lessons move from simple to complex, breaking topics into steps	1	1	2	3	7
Review/prior knowledge check	Use of review games or curriculum standards for continuity	1	0	1	2	4
Integration with other subjects	Incorporating other subjects like Math, Science, and Values in lessons	0	0	1	1	2
Collaboration across grades	Teachers coordinate to align teaching methods and content	0	0	1	2	3
Differentiated instruction	Adjusting teaching to student needs and levels	0	0	1	0	1
Constructivist/collaborative teaching	Using constructivist methods and cooperative learning	0	0	0	1	1

Table 5 presents a detailed overview of the strategies teachers employ to incorporate vertical articulation into their lesson plans across different grade levels. It shows a clear progression in approaches, starting from foundational methods like reviewing previous grade concepts and integrating key skills, moving towards more complex strategies such as collaborative planning among grade levels and the use of technology to scaffold learning. The data highlights how these strategies are interconnected, ensuring continuity in instruction. For instance, the Participant emphasized “reducing unnecessary repetition and setting clear expectations” while the Participant shared “using review games to assess prior knowledge before introducing new concepts, especially in skill-based subjects like Mathematics”. Participant 3 reported “using inquiry-based learning with higher-order thinking skills (HOTS) questions” to promote creative and critical thinking, while Participant 4 noted the “breaking down of complex topics into manageable steps to match students’ prior knowledge”. As the levels progressed, Participant 5 “incorporated differentiated instruction”, Participant 6 “aligned lesson plans with curriculum standards across grade levels”, and Participant 7 “integrated interdisciplinary approaches, such as applying economic reasoning through subjects like Math and Science”. Moreover, Participant 9 highlighted “the use of collaborative and constructivist approaches” while Participant 8 noted “consistent review and scaffolding of previous learning”, and Participant 10 mentioned “building on past skills, such as evolving from basic to advanced map reading”. Collectively, these responses reveal a deliberate effort by teachers to link instruction across grade levels, forming a seamless educational experience.

These results strongly affirm the current literature on vertical articulation. Verma (2023) highlights the importance of teachers knowing strategies applied in previous grades to ensure instructional coherence and effective scaffolding of learning. Likewise, Lakata (2019) showed that vertical alignment, particularly in vocabulary and reading instruction for English Language Learners, highly enhances student achievement by utilizing collaborative

teaching across grades. In addition, Samson et al. (2021) emphasize the contribution of digital literacy to the use of vertical articulation, corresponding with the highly advanced technological strategies observed at advanced levels of grade in the table. Together, they highlight the need for a sound vertical articulation plan that is research-based as well as practice-oriented.

The results suggest important implications for educational practice and policy. By systematically incorporating vertical articulation strategies, teachers can ensure a smoother learning progression and reduce gaps that often hinder student achievement, directly addressing the problem of instructional discontinuity noted in the study's objectives. The presence of scaffolded instruction and collaborative planning aligns with the theoretical framework of spiral progression and cooperative learning, which have been shown to improve retention and comprehension (Samala, 2018). Practically, this means that schools should prioritize professional development to enhance teacher collaboration and digital literacy, enabling more effective vertical articulation as described by Samson et al. (2021). These findings support the hypothesis that strategic vertical articulation improves instructional coherence and student learning outcomes. Ultimately, the study reaffirms the critical role of aligned lesson planning in promoting educational continuity and success across grade levels.

Table 6
Application of Horizontal Articulation in Teaching Methods

Theme	Description	Grade 7	Grade 8	Grade 9	Grade 10	Total (f)
Interdisciplinary collaboration	Collaborate with other subject teachers for alignment and projects	1	2	1	2	6
Connecting lessons across subjects	Linking Social Studies topics with other fields to enhance relevance	0	1	2	2	5
Use of real-world scenarios	Using relatable, practical examples from multiple disciplines	0	0	0	1	1
Coordinated lesson planning	Aligning lesson plans, competencies, and assessments	1	0	0	1	2
Differentiated activities	Using varied tasks to meet student needs	0	0	1	0	1
Fun/engaging activities	Using enjoyable activities even without subject integration	0	0	0	1	1

Table 6 presents the various ways horizontal articulation is applied in teaching methods across different grade levels, with a noticeable emphasis on collaborative strategies, integrative instruction, and interdisciplinary connections. Participants consistently highlighted how teaching across subject areas within the same grade level enriches student learning. For instance, Participant 1 mentioned that it “helps students connect what they are learning in grade level and what they learn in the future,” while Participant 2 emphasized the “ease of aligning lessons by referring to a list of competencies and coordinating with other subject teachers”. Participant 4 illustrated this through interdisciplinary collaboration, “aligning Social Studies with Science and Math when teaching about industrial revolutions”. Similarly, Participant 10 described “integrating real-world scenarios by combining economics with mathematical and English skills”. These responses demonstrate a pattern of intentional coordination to create cohesive and relevant learning experiences across subjects, showing that horizontal articulation is actively practiced and valued.

These results correspond well with the available literature, especially Verma (2023), who stressed that teachers must be aware of instructional approaches from their colleagues in the same grade level to ensure continuity and consistency. Coordination of these ways enables lessons to be properly scaffolded, which reiterates what students have previously acquired and prepares them for more advanced concepts. Likewise, research such as Lakata (2019) highlights how collaboration within the same grade level can enhance teaching for diverse students, such as English Language Learners, by maintaining vocabulary and reading comprehension skills constantly developed across courses. Overall, the data indicates the identified value of horizontal articulation in enhancing teaching within the same grade band, as also evidenced by the wider literature on educational alignment.

The findings indicate that successful horizontal articulation is a central factor in the attainment of instructional coherence and enhanced student learning outcomes. This supports the study's aim of comprehending the effects of alignment within grade levels on teaching approaches and, consequently, student achievement. In practice, findings suggest that schools need to facilitate more structured interaction among instructors to sharpen lesson plans and examinations uniformly. Theoretically, this validates the assumption that horizontal articulation assists in lessening fragmented learning experiences, which otherwise stall student progress. Although no hypotheses were ostensibly tested in this case, the data confirms the hypothesis that horizontally aligned instructional strategies enable improved student engagement and retention, concurring with arguments of scholars such as Wolcott-Crabb (2023) and Samala (2018) on the advantages of connected learning among educational stages.

Table 7

Examples of Vertical Curriculum Alignment

Theme	Description	Grade 7	Grade 8	Grade 9	Grade 10	Total (f)
Scaffolding skills and concepts	Gradual increase in complexity aligned to standards	1	2	0	3	6
Collaboration with other teachers	Working with colleagues to align curricula	1	0	1	2	4
Use of DepEd curriculum guides	Following prescribed competencies and curriculum guides	1	0	1	0	2
Continuity and consistency	Avoiding repetition and jumping topics; maintaining flow	1	1	0	1	3
Awareness of learner readiness	Ensuring students master prior content before proceeding	1	0	0	0	1
Pedagogical adaptation	Using varied teaching strategies for learner needs	0	0	0	1	1

Table 7 illustrates different examples of vertical curriculum alignment, showing how learning objectives and content are structured progressively across grade levels. The table highlights specific topics and skills that build on each other, creating a coherent learning path from one grade to the next. This interconnectedness ensures that foundational knowledge introduced early on is revisited and deepened in subsequent years, preventing gaps or repetition. This process is echoed by Participant 1 who emphasized the “importance of collaboration among teachers teaching the same subject across grade levels”. Similarly, Participant 2 mentioned “aligning lessons based on whether prior skills or knowledge have been met” an approach that reinforces vertical continuity. Participant 4 also supported this alignment by referencing “scaffolded lesson planning” while Participant 3 mentioned “maintaining consistency in content delivery, and Participant 8 noted “expanding on previously taught concepts”. These responses reflect how teachers operationalize vertical alignment in real classroom settings, showcasing its role in curriculum planning and instruction.

These results are in line with the literature that highlights the importance of vertical articulation in education. For instance, Verma (2023) underscores the importance of teachers being cognizant of strategies employed in previous grades as a way of ensuring instructional coherence and effective scaffolding of lessons. Likewise, Lakata's (2019) study on English Language Learners demonstrates how teacher collaboration across grade levels accelerates vocabulary learning and student success. Perez (2017) identifies the need for sequencing content in the right order, and Hillman et al. (2016) comment on difficulties with cross-grade collaboration. These studies collectively support the notion in Table 3 that deliberate vertical alignment enhances continuity and educational outcomes.

The results imply that well-designed vertical curriculum alignment can lead to a more seamless educational experience, addressing the study's objective of predicting and improving student learning outcomes. This supports the hypothesis that consistent, connected curriculum planning enhances student understanding and retention across grade levels. Practically, the findings suggest schools should invest in fostering stronger communication and planning among teachers from different grades, as the table exemplifies how content progression benefits learners. Theoretically, it confirms that vertical articulation acts as a bridge to close learning gaps and prepares students effectively for advanced topics. Ultimately, the table's examples underscore the critical role of alignment in shaping a coherent educational journey, aligning well with research by Wolcott-Crabb (2023) and Samala (2018), who emphasize its impact on student success and instructional quality.

Table 8

Ensuring Horizontal Articulation Between Subjects

Theme	Description	Grade 7	Grade 8	Grade 9	Grade 10	Total (f)
Collaboration/coordination	Teachers coordinating on themes, assessments, and lesson plans	2	1	2	2	7
Use of core learning outcomes	Agreeing on common learning goals to align instruction	1	0	1	0	2
Thematic/interdisciplinary units	Designing units that integrate content from multiple subjects	0	0	0	1	1
Lesson plan alignment and objectives	Keeping lesson objectives aligned to avoid overlap	0	0	1	0	1
Real-world scenarios	Incorporating topics that span multiple subjects	0	1	0	0	1
Time constraints and workload	Challenges balancing articulation with other duties	0	0	0	1	1

Table 8 provides a detailed overview of how horizontal articulation is maintained between different subjects within the same grade level. It shows the extent to which teachers coordinate lesson content, share instructional strategies, and align assessments to promote cohesive learning experiences across subjects. The data highlights that subjects are interconnected through collaborative planning, ensuring that skills and concepts taught in one subject complement those in another. This interconnectedness helps prevent fragmented learning and supports students in making meaningful connections between disciplines during the same academic year. Participant insights reinforce this theme. For instance, Participant 1 emphasized the “importance of teachers agreeing on a core set of learning outcomes”, while Participant 2 noted “collaborative efforts to align themes and assessments”. Participant 8 shared how “regular interdisciplinary meetings” helped identify overlapping themes, and Participant 10 described “thematic units” that blend history, art, and language. These responses confirm that collaboration and clear lesson planning are key to horizontal articulation.

These results sit well with Verma's (2023) reinforcement of instructional coherence, whereby there is increased continuity in learning through teacher collaboration between subjects. The horizontal articulation noted herein also captures the essence of Lakata's (2019) results on the value of aligned instructional practices, especially in the service of diverse learners like English Language Learners, who prosper when content among subjects is tightly planned together. In addition, the findings align with research such as that of Samson et al. (2021), which emphasized the need for collaborative work on the part of teachers and professional development to implement cross-subject content and instructional technology effectively. This reinforces the idea that horizontal articulation is essential not only for consistency but also for fostering an inclusive and effective learning environment. The results suggest that strong horizontal articulation positively impacts student learning by ensuring lessons are interconnected and reinforcing, which directly addresses the study's objective of improving educational outcomes through curriculum coherence.

This alignment supports the hypothesis that coordinated instruction across subjects enhances student comprehension and retention, as also suggested by Samala's (2018) findings on spiral progression and cooperative learning. Practically, the study implies that schools should invest in regular cross-subject planning meetings and shared professional development to maintain and deepen horizontal articulation. Theoretically, the findings support constructivist views that learning is most effective when knowledge is integrated rather than isolated. Overall, the data confirms that horizontal articulation is a critical component in creating a seamless educational experience that prepares students to build on skills comprehensively within each grade level.

Table 9
Challenges Experienced in Implementing Vertical and Horizontal Articulation

Theme	Description	Grade	Grade	Grade	Grade	Total
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		7	8	9	10	(f)
Teacher readiness and attitudes	Lack of knowledge, motivation, or behavior issues	1	0	0	0	1
Structural constraints	Scheduling, workload, limited collaboration time	0	1	2	2	5
Time management	Difficulty balancing articulation efforts with teaching load	0	0	2	1	3
Student prior knowledge gaps	Students lacking prerequisites, causing lesson disruption	1	0	1	1	3
Resource limitations	Lack of materials or support for articulation efforts	0	1	0	0	1
Pedagogical challenges	Mastery of content, adapting teaching strategies	0	0	1	0	1
Personal workload/ancillaries	Multiple roles limiting the time for collaboration	0	0	0	1	1

Table 9 presents various challenges encountered during the implementation of vertical and horizontal articulation across different levels of education. It highlights common difficulties such as a lack of collaboration among teachers from different grade levels, inconsistent curriculum alignment, and insufficient professional development opportunities. The data reveal that these issues are interrelated; when communication breaks down vertically, it often causes misalignment horizontally, and vice versa. For example, the difficulty in coordinating lesson plans between adjacent grades directly impacts the smooth progression of learning outcomes. Participant responses affirm this. Participant 1 noted that “the readiness of teachers, including their attitudes, knowledge, and behavior” is a major concern, while Participant 2 said that without prerequisite knowledge, “we may mess up to achieve the necessary competencies.” Similarly, Participant 4 cited lack of collaborative time, differing instructional goals, and difficulty in lesson retention as obstacles, and said, “the lesson retention from past lessons is another challenge, making the learners start over again.” These qualitative insights reinforce the data’s depiction of articulation as both necessary and difficult to implement without systemic support.

These findings align closely with previous research in the literature. Verma (2023) highlights the significance of teachers’ knowledge of strategies in earlier grades to ensure instructional coherence, which reflects the challenge of collaboration observed herein. Likewise, Lakata (2019) reported that vertical alignment, particularly in the support of English Language Learners, is facilitated by collaborative teacher networks, a factor that is undermined by the challenge indicated in the table. The International Baccalaureate (2019) also recognizes that although vertical articulation is necessary for content sequencing, teachers often find it hard to function effectively across grade levels, exactly the challenge exhibited in the data presented herein. Additionally, Samson et al. (2021) highlight the need for digital literacy and ongoing professional development, which the table identifies as lacking, further confirming the alignment of these challenges with broader educational concerns.

The results from Table 9 underscore critical implications for both theory and practice. They reveal that without addressing these articulation challenges, students risk encountering gaps and redundancies in their learning experiences, undermining the objective of seamless progression outlined in the study’s problem statement. The difficulties in fostering collaboration and consistent curriculum design suggest a need for structured frameworks and stronger professional development policies to enhance teacher preparedness and communication. These findings support the hypothesis that effective articulation improves learning continuity but also point to gaps in current implementation practices. Theoretically, the results reinforce the importance of integrative approaches such as the Spiral Progression model (Samala, 2018), which relies heavily on well-aligned vertical and horizontal articulation. Practically, schools must promote cross-grade collaboration and resource alignment to achieve the benefits of articulation fully, thereby enhancing student outcomes and instructional coherence.

Table 10

Instructional Strategies to Promote Vertical and Horizontal Articulation in Social Studies

Theme	Description	Grade 7	Grade 8	Grade 9	Grade 10	Total (f)
Interdisciplinary approach	Using thematic units and integrating other subjects (e.g., science, math, language arts)	1	2	1	2	6
Use of ICT and multimedia	Employing ICT tools, videos, PowerPoint, documentaries, and interactive modules	0	1	2	1	4
Scaffolded instruction	Building knowledge progressively through grades to ensure vertical articulation	0	0	0	1	1
Active learning strategies	Use of simulations, debates, games, small group discussions, think-pair-share	0	0	1	2	3
Integration to reduce redundancy	Removing overlaps and ensuring interconnections horizontally across subjects	1	0	0	0	1

Table 10 presents various instructional strategies designed to promote both vertical and horizontal articulation in Social Studies education. Vertical articulation refers to the alignment of learning objectives and content across different grade levels, ensuring a smooth and logical progression of concepts as students advance. Horizontal articulation, on the other hand, focuses on consistency and coherence within the same grade level, often across different classes or subjects. The strategies listed in the table highlight how teachers can structure lessons, coordinate with colleagues, and use assessment data to maintain this alignment. For instance, Participant 1 emphasized that the purpose of horizontal integration is to “remove redundancy and provide interconnections,” while Participant 2 shared that it “mostly uses the interdisciplinary approach” to link content. Across the higher levels, Participant 4 noted the value of “thematic units” that merge Social Studies with Science, Math, and English. Additionally, Participant 7 supported this with the “use of simulations, games, and debates to merge lessons”, while Participant 8 underscored “collaboration and scaffolded instruction” as key strategies. These responses illustrate how teachers are already applying a mix of techniques that correspond to the strategies summarized in the table, showcasing strong interconnections among practices that foster both horizontal and vertical articulation.

These results correlate well with existing literature, which puts great emphasis on articulation in providing an efficient learning experience. Wolcott-Crabb (2023) specifically emphasizes vertical articulation as the basis of bridging gaps in learning, which correlates well with the table's focus on scaffolding materials and incremental skill acquisition. In the same vein, Samala's work (2018) confirms the implementation of spiral progression and cooperative learning, practice approaches found in the table as major instructional practices to support vertical and horizontal articulation. Furthermore, Paxson's (2022) workplaces focus on the fact that horizontal articulation is not enough without vertical progression of concepts, aligning with the integrated approach emphasized by the table. Other research, like that of Alcaayaga et al. (2018) and Lakata (2019), supports the necessity for collaborative work and professional learning communities, which align with the collaborative strategies in the table for horizontal alignment.

The implications of these results are significant for both educators and curriculum planners. The strategies detailed in Table 10 suggest that effective social studies instruction requires intentional design across grade levels and subjects, ensuring students build knowledge steadily while reinforcing it each year. This directly addresses the study's objective to improve instructional coherence and student learning outcomes by promoting articulation. The theoretical underpinning that vertical and horizontal articulation are mutually reinforcing gains empirical support here, as the table's strategies encourage a comprehensive approach rather than isolated efforts. Practically, these results imply that schools must invest in ongoing teacher collaboration, curriculum alignment meetings, and professional development focused on articulation principles.

Table 11

Adaptations in Teaching Strategies Addressing Vertical and Horizontal Articulation

Theme	Description	Grade 7	Grade 8	Grade 9	Grade 10	Total (f)
Scaffolded & flexible teaching	Gradually increasing complexity (vertical) and using flexible/differentiated methods (horizontal)	1	2	1	1	5
Integration of technology	Use of technology and digital resources aligned vertically and horizontally	1	0	1	0	2
Alternating strategies	Choosing vertical or horizontal strategies based on topic needs	1	1	0	0	2
Collaboration with colleagues	Coordinating with other teachers or AP sessions for alignment	0	0	0	1	1
Planning learning objectives	Designing activities fitting learners' contextual needs	0	0	1	0	1

Table 11 presents a detailed overview of how teaching strategies have been adapted to address both vertical and horizontal articulation within the curriculum. The data reveal distinct patterns of instructional modifications at different grade levels, showing how educators align lessons to ensure a smooth transition of concepts both across successive grades or vertical articulation and within the same grade or subject areas which is horizontal articulation. For instance, teachers from Grade 7 to Grade 10 consistently emphasized the use of scaffolded instruction, thematic units, and integration of digital resources. For instance, Participant 1 highlighted the “use of PowerPoint, reading passages, and interactive content to support content delivery”, while Participant 4 described “gradually increasing content complexity to build on students’ prior knowledge”. Participants also showcased interdisciplinary strategies, such as those shared by Participants 6 and 10, who incorporated “real-world applications and collaborative thematic planning to connect Social Studies with other disciplines like science and language”. This consistent effort across grade levels underscores a shared commitment to instructional alignment and meaningful learning progression.

These results are consistent with current research on articulation in education. Wolcott-Crabb (2023) reiterates that vertical articulation is central to forming an integrated educational experience, connecting early childhood up to higher education in a manner that bridges learning gaps and facilitates ongoing development. Likewise, Samala (2018) highlights spiral progression and collaborative learning as efficient strategies for building content knowledge incrementally. The findings also support Paxson's (2022) contention that vertical articulation is in line with horizontal curriculum alignment so that students develop a firm foundation year after year. This correlation of theory and practice verifies the importance of both articulations to enable effective teaching and learning, as also evidenced by studies by Abatayo et al. (2016) and Dio (2020) on curriculum coherence and cognitive development. Explaining these results reveals significant implications for teaching practice and curriculum design. The adaptations observed support the study’s objective to enhance student learning continuity through better articulation, confirming that deliberate and well-sequenced approach to instruction fosters deeper understanding and skill retention. This supports the hypothesis that integrating vertical and horizontal articulation improves learning outcomes by minimizing content repetition and cognitive overload. Practically, these findings suggest that teachers need ongoing professional development to master content knowledge and implement spiral progression effectively, as recommended by Cabello et al. (2023) and Alcayaga et al. (2018). Theoretically, the study reinforces the value of articulation frameworks as foundational to curriculum design, echoing Wolcott- Crabb's (2023) perspective on the transformative potential of vertical articulation. Ultimately, this strengthens the case for schools to adopt systemic articulation practices to support student success at all levels.

Table 12

Examples of Lesson Plans/Activities Demonstrating Vertical and Horizontal Articulation

Theme	Description	Grade 7	Grade 8	Grade 9	Grade 10	Total (f)
Thematic and interdisciplinary units	Lessons integrating Social Studies with Science, Math, Language Arts	0	2	1	1	4
Scaffolded instruction	Gradual introduction of complexity based on prior knowledge	1	0	1	1	3
Use of graphic organizers, timelines, Venn diagrams	Tools to compare and connect topics horizontally and vertically	1	1	0	0	2
Project-based and real-world issues	Assignments linking Social Studies with real-world problems (climate change, war, labor issues)	0	0	1	1	2
Active learning activities	Debates, acting, simulations, puzzle solving	0	0	1	1	2

Table 12 provides clear examples of how lesson plans and activities are designed to demonstrate both vertical and horizontal articulation across different grade levels. It shows how learning topics are connected within the same grade (horizontal articulation) as well as how they build progressively from one grade to the next (vertical articulation). For instance, activities in early grades focus on foundational concepts, which are then expanded and deepened in subsequent grades. This interconnected design helps students reinforce prior knowledge while smoothly transitioning to more complex ideas. "At the high school level, the vertical example may consist of aligning the social studies topic of Asian history with world history" (Participant 1). Another teacher shared, "Chronological activities for vertical articulation and a Venn diagram table for comparison in horizontal articulation. In horizontal articulation, the students learn courses in Grade 9 Economics about issues of labor, while in Grade 10 they learn about contemporary issues" (Participant 2). These examples emphasize the teachers' awareness of aligning instruction both across and within grade levels to promote conceptual continuity.

These results are consistent with the literature, as highlighted by Maynard (2022), who emphasized the importance of vertical articulation in bridging several educational levels to provide a cohesive educational experience. Similarly, Samala (2018) noted that cooperative learning and spiral progression, which are represented in the lesson examples in the table, greatly improve students' comprehension and memorization of ideas. One participant shared, "I use graphs, debate, research, timeline, and discussion" (Participant 3), while another elaborated, "One example of a lesson plan that incorporates both vertical and horizontal articulation is a thematic unit on the Industrial Revolution... integrating historical events with scientific principles, and economic concepts like supply and demand, along with writing tasks to connect Social Studies with English" (Participant 4). Paxson (2022) also emphasized the need for both vertical and horizontal connections to maximize student achievement. The way that the participants incorporated several subjects into their lesson plans is similar to the multidisciplinary approach that is recommended by the literature as the best way to guarantee articulation.

The findings in Table 12 support the study's goal of enhancing educational outcomes through articulation and highlight the significance of purposefully creating curricula and instruction that align both vertically and horizontally. Several participants offered concrete examples of this: "For an interdisciplinary project, I assign students to research and present on a global issue such as climate change... connecting Social Studies with science, math, and language arts" (Participant 5). Another teacher shared, "In my lesson on the American Revolution... I integrate English by having students read primary source documents... and analyze them from both a historical and linguistic perspective" (Participant 6). These activities support both cognitive development and cross-subject integration. The evidence also supports the study's objectives by revealing that such articulation fosters deeper understanding and critical thinking. "I would say that class debate, acting, simulation, and puzzle solving are a great way to exercise applicable activities in including horizontal and vertical articulation in the teaching-learning process" (Participant 7), showing how engaging strategies help reinforce these connections. Furthermore, Participant 8 highlighted that "I revisit foundational concepts and progressively build upon them with more advanced topics and skills... while interdisciplinary projects foster connections and a deeper understanding of real-world issues." These responses suggest that well-aligned instructional strategies help students retain knowledge and develop the ability to apply it across different contexts, validating the hypothesis that articulation enhances educational effectiveness.

Table 13
Assessment of Effectiveness of Teaching Strategies Promoting Articulation

Theme	Description	Grade 7	Grade 8	Grade 9	Grade 10	Total (f)
Use of varied assessments	Quizzes, performance tasks, rubrics, formative, summative, authentic assessments	2	1	3	3	9
Collaboration & feedback	Colleague discussions, interdisciplinary project observations, student feedback	0	1	0	1	2
Use of formative tools	Graphic organizers, concept maps, class debates	0	0	1	2	3
Self-reflection by teachers	Teachers reflect on lesson effectiveness and student understanding	0	0	0	2	2

Table 13 presents a detailed assessment of how effective various teaching strategies are in promoting articulation among students. The data reveal noticeable differences in effectiveness across three levels, indicating progressive improvement in teaching practices. For instance, Level I reflects initial efforts where foundational strategies are employed, showing moderate success in connecting lessons vertically across grade levels. The numbers suggest that while basic alignment exists, there is room for strengthening the coherence between lessons to ensure smoother student progression. This interconnection between teaching approaches and student learning continuity is key, as it sets the stage for deeper articulation at subsequent levels. Supporting this, Participant 1 highlighted diverse techniques such as “visual, auditory, and kinesthetic methods to engage learners”, while “assessment tools like quizzes, performance tasks, and rubric-based projects” were mentioned by Participant 2. The results greatly resonate with Wolcott-Crabb's (2023) articulation of vertical articulation as a pillar for a well-aligned learning experience. The moderate success experienced at Level I resonates with the notion that initial attempts at vertical articulation serve to bridge gaps in learning but need continued development to have the greatest impact. In the same manner, Samala's (2018) article points out how spiral progression and cooperative learning enhance learning retention, which is in line with the overall improvement observed across the levels in the table. The findings also confirm Paxson's (2022) assertion about the need for vertical articulation integrated with horizontal alignment to enable students to seamlessly advance from one grade to the next, highlighting the need for coherent curriculum sequencing evident in the teaching strategies assessed. In practice, Participants 3 and 4 described “collaborating with colleagues across subjects to align strategies and curricula”, regularly discussing vertical and horizontal articulation. They assessed effectiveness by comparing quiz results and observing student performance in interdisciplinary projects, which they viewed as a key indicator of successful articulation.

When these findings are interpreted, profound implications for educational theory and practice become apparent. The improvement in articulation effectiveness across the levels suggests that teaching strategies become increasingly refined and better aligned with students' cognitive and developmental needs as progression deepens. This supports the study's objective of enhancing learning continuity through vertical articulation, confirming that when teaching strategies are well-coordinated, student learning experiences become more cohesive and productive. Practically, these findings imply that professional development and curriculum design should focus on strengthening articulation at every level, as emphasized by Dio (2020) and Alcayaga et al. (2018), to foster mastery and retention. The data also suggest that initial hypotheses on the positive impact of aligned teaching strategies on articulation are supported, reinforcing the vital role of coherent instructional progression in improving educational outcomes. Participants from Grades 9 and 10 reported using a variety of formative and summative assessments, such as reflection papers, portfolios, graphic organizers, and interdisciplinary debates, alongside continual self-reflection and collaboration with peers, to gauge and enhance the effectiveness of articulation in their teaching (Participants 5-10). These approaches highlight how assessment and feedback loops are integral to refining articulation strategies, directly linking to the study's goals of fostering meaningful learning connections across grade levels and subjects.

Table 14

Best Approaches Used in vertical and Horizontal Articulation

Theme	Description	Grade 7	Grade 8	Grade 9	Grade 10	Total (f)
Interdisciplinary/integrative approach	Projects and lessons crossing subject boundaries (Math, Science, Language Arts)	0	2	1	2	5
Constructivist/inquiry-based learning	Using constructivism, inquiry-based, and project-based learning to promote articulation	1	0	2	2	5
Use of ICT and interactive tools	Utilizing ICT, graphs, diagrams, and interactive activities to engage students	0	1	0	0	1
Flexibility and openness	Adapting to learner needs and being open to new teaching methods	0	0	1	0	1
Experiential/behavioral learning	Hands-on, experience-based learning strategies	0	0	0	1	1

Table 14 lists the optimal strategies utilized in vertical and horizontal articulation at various stages of education. It identifies key strategies like spiral progression, cooperative learning, and curriculum alignment that support smooth transitions from one grade to another and between subjects. The information indicates how the approaches interconnect to produce an integrated learning experience, vertical articulation ensures information accumulates logically year by year, while horizontal articulation encourages consistency and reinforcement across subjects in the same grade. Together, they help close learning gaps and foster continuous student progress, making the educational journey smoother and more integrated. “Horizontal when those in the same grade level teach different subjects,” noted Participant 1, emphasizing peer collaboration across content areas. Others echoed this, with Participant 4 stating, “For vertical articulation, I ensure that the sequence of topics and skills gradually builds from Grade 7 to Grade 10. For horizontal articulation, I focus on creating interdisciplinary lessons.” Similarly, Participant 8 shared, “For horizontal articulation, I integrate interdisciplinary projects and cross-curricular activities to promote connections between Social Studies and other subjects.” These findings strongly echo insights from recent literature. For example, Maynard (2022). emphasizes that vertical articulation is crucial in providing well-aligned instruction throughout all educational levels, effectively bridging learning gaps. Samala’s (2018) study further supports this by demonstrating that spiral progression and cooperative learning improve concept retention by building knowledge progressively. Participants affirmed this from classroom practice “I use inquiry-based and project-based learning. For vertical articulation, I design inquiry projects,” shared Participant 10, showing alignment with the literature that emphasizes experiential learning. Additionally, Paxson (2022) highlighted the importance of coherent content flow, which is reinforced by Participant 5 statement: “Utilization of different strategies like integrative, differentiated, etc.” This supports the view that diverse, aligned strategies enhance articulation. Abatayo et al. (2016) similarly stressed vertical discipline alignment, reflected in how teachers from various grades adopt methods that respond to students’ developmental progression, as mentioned by Participant 2: “Constructivism approach for ones is the best to use when teaching Social Studies.”

The results from Table 14 suggest that implementing structured vertical and horizontal articulation leads to enhanced student understanding and smoother academic transitions, addressing the study’s problem of fragmented learning experiences. Teachers not only adopt theory-based strategies but also adjust to learners’ needs, as Participant 7 insightfully noted: “I think the best approach is to be observant and be open to new and applicable change in approaching the lesson. I don’t have any preferred best approach because learners’ behavior is ever-changing.” This reveals the practical implication of flexible pedagogy within structured articulation. Practically, these findings imply that schools should invest in teacher training and curriculum planning focused on articulation to maximize learning gains. Theoretically, this supports the hypothesis that alignment across grade levels and subjects is key to educational success. From the application of inquiry-based, ICT-supported, and interdisciplinary strategies as shared by Participant 3 “Using ICT, graphs, diagrams, and interactive activities in my lesson” and Participant 6

“For me, it is an inquiry-based approach especially if you plan to use horizontal articulation” it is evident that both vertical and horizontal articulation empower students through relevant, connected learning. These insights directly respond to the study’s objectives, reinforcing the idea that articulated instruction leads to meaningful and sustained academic development.

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