



ASSESSMENT OF THE PILOT IMPLEMENTATION OF THE GENERAL MATHEMATICS COURSE UNDER THE STRENGTHENED SENIOR HIGH SCHOOL CURRICULUM: A CASE STUDY

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ABSTRACT

This study examined the pilot implementation of the General Mathematics course under the Strengthened Senior High School Curriculum at Santiago City National High School. Using a thematic qualitative research design, data were collected through semi-structured interviews with teachers and administrators and focus group discussions with students.

The findings revealed that while the curriculum was generally perceived as relevant and logically structured, challenges emerged related to extensive content coverage, fast-paced lessons, limited learning resources, and varying student preparedness. Teachers employed learner-centered strategies, contextualized instruction, and ICT integration to enhance comprehension, yet highlighted the need for continuous professional development and additional resources. Students reported difficulties in retaining formulas and understanding complex concepts but noted increased engagement and confidence when lessons were clearly explained and connected to prior knowledge. Administrators emphasized structured support mechanisms, monitoring, and adherence to DepEd policies, though constraints in resources and stakeholder awareness were identified. Based on these findings, recommendations were proposed for teachers, students, administrators, parents, and DepEd to strengthen instructional delivery, learning outcomes, and curriculum effectiveness. These measures aim to improve pacing, provide adequate resources, support differentiated learning, and ensure systemic support for successful implementation.

KEYWORDS: General Mathematics, Strengthened Senior High School Curriculum, pilot implementation, thematic qualitative analysis, learner-centered instruction, curriculum challenges, educational resources.

INTRODUCTION

Education serves as the cornerstone of national development, shaping the skills, values, and competencies of learners who will eventually contribute to the progress of society. As societies evolve, so does the demand for education systems to adapt and respond to the challenges of the modern world. Curriculum, often referred to as the “heart of education,” plays a crucial role in defining the quality of learning that students receive. It determines not only what students learn but also how they are prepared to face the realities of higher education, employment, and lifelong learning.

As global and local demands continue to evolve, education systems are expected to continuously improve their curricula to ensure relevance, quality, and responsiveness to learners’ needs (UNESCO, 2021). Curriculum, often described as the core of the educational process, plays a crucial role in shaping learning experiences and determining how well students are prepared for higher education, employment, and lifelong learning (OECD, 2020).

In the Philippines, the implementation of the K to 12 Basic Education Program represented a major reform intended to align the country’s education system with international standards. A

key component of this reform was the introduction of Senior High School (Grades 11 and 12), which aimed to provide learners with specialized preparation for higher education, employment, or entrepreneurship (Department of Education, 2013). However, after several years of implementation, various concerns emerged, including curriculum congestion, overlapping competencies, and misalignment with the expectations of higher education institutions and the labor market (OECD, 2020; UNESCO, 2021).

In response to these concerns, the Department of Education issued DepEd Memorandum No. 48, s. 2025, introducing the Strengthened Senior High School Curriculum. This curriculum reform seeks to streamline subject offerings, reduce redundancy, strengthen foundational skills, and improve coherence between basic education, higher education, and workforce requirements (DepEd, 2025). As part of its initial rollout, the strengthened curriculum is being implemented through a pilot phase, allowing schools to test its design and implementation before nationwide adoption.

Given the pilot nature of the strengthened curriculum, systematic monitoring and evaluation of its initial implementation are essential. In curriculum evaluation, two major types are



identified: formative and summative evaluation. Formative evaluation is conducted during the early stages of implementation to gather feedback, identify challenges, improve instructional effectiveness, and inform necessary adjustments in policy and practice. In contrast, summative evaluation is conducted after full implementation and focuses on measuring the overall impact and outcomes of the curriculum. In the context of educational reform, formative evaluation is particularly critical because it allows stakeholders to refine the curriculum while it is still being implemented, thereby preventing larger issues during nationwide adoption.

However, existing studies on the Senior High School curriculum have largely focused on general implementation issues and outcomes, with limited emphasis on formative evaluation during the pilot phase. This indicates a significant gap in the literature, particularly in understanding how early implementation processes can be assessed and improved to ensure curriculum effectiveness. Addressing this gap is essential to support evidence-based decision-making and continuous improvement in curriculum reform.

One of the core subjects under the strengthened Senior High School Curriculum is General Mathematics, which plays a vital role in developing learners' logical reasoning, analytical thinking, and problem-solving skills. Mathematics education is widely acknowledged as essential for academic success and employability, particularly in science, technology, engineering, and economics-related fields (National Council of Teachers of Mathematics, 2020). Effective implementation of the General Mathematics course is therefore critical in ensuring that learners acquire the foundational competencies required for further studies and practical applications.

Curriculum reforms, however, do not automatically lead to improved learning outcomes. The success of any curriculum change largely depends on how it is implemented in schools and classrooms (Fullan, 2007). Teachers serve as the primary implementers of the curriculum, translating policy intentions into instructional practices. Students' learning experiences reflect how effectively the curriculum supports understanding and engagement, while school administrators play a crucial role in providing leadership, resources, and monitoring mechanisms that influence implementation quality (Fullan, 2007; DepEd, 2025).

Given these considerations, there is a need to closely examine how the General Mathematics course is being implemented at the school level during the pilot phase of the strengthened curriculum. A case study approach allows for an in-depth exploration of instructional practices, learning experiences, administrative support, and challenges encountered during the early stage of curriculum reform. Such formative evaluation is essential to identify strengths and areas for improvement before the curriculum is fully implemented nationwide.

The researcher is currently teaching at Santiago City National High School, one of the pilot schools implementing the strengthened Senior High School Curriculum. This firsthand involvement provided the motivation to conduct the study, as it offers a unique opportunity to document real classroom experiences and school-level implementation practices. By examining the perspectives of students, teachers, and school administrators, this study aims to generate context-specific insights into the pilot implementation of the General Mathematics course.

This study therefore seeks to assess the pilot implementation of the General Mathematics course under the Strengthened Senior High School Curriculum through a qualitative case study, with particular emphasis on formative evaluation. The findings are expected to contribute to the improvement of curriculum implementation, instructional support, and policy refinement, ultimately supporting the successful transition toward a strengthened and more responsive Senior High School education system in the Philippines.

Statement of the Problem

Generally, this study aimed to assess the pilot implementation of the General Mathematics course under the Strengthened Senior High School Curriculum.

Specifically, it sought to answer the following questions:

1. How do teachers perceive the pilot implementation of the General Mathematics course under the Strengthened Senior High School Curriculum in terms of:
 - 1.1. content,
 - 1.2. instructional strategies,
 - 1.3. learning resources,
 - 1.4. attainment of learning outcomes, and
 - 1.5. challenges encountered?
2. How do students experience and perceive the General Mathematics course under the Strengthened Senior High School Curriculum in terms of:
 - 2.1. learning experiences,
 - 2.2. content and teaching methods,
 - 2.3. attainment of learning outcomes, and
 - 2.4. challenges encountered during the pilot implementation?
3. How do school administrators perceive the pilot implementation of the General Mathematics course under the Strengthened Senior High School Curriculum in terms of:
 - 3.1. support mechanisms,
 - 3.2. monitoring and evaluation practices,
 - 3.3. policy influences, and
 - 3.4. challenges encountered?

METHODOLOGY

This study employed a qualitative case study design with elements of narrative inquiry to assess the pilot implementation of the General Mathematics course under the Strengthened



Senior High School Curriculum at Santiago City National High School. The case study approach enabled an in-depth examination of the implementation within a specific school context, while narrative inquiry facilitated the exploration of the lived experiences, perceptions, and insights of teachers, students, and school administrators.

The study utilized thematic analysis following the framework of Braun and Clarke (2021) to analyze qualitative data. This approach allowed for the systematic identification, coding, and interpretation of recurring themes and patterns related to curriculum implementation, instructional practices, and stakeholder experiences.

Sampling Design

The study employed purposive sampling, a non-probability sampling technique, to select participants who possessed direct experience and involvement in the pilot implementation of the General Mathematics course.

The respondents included:

- ❖ Students: A minimum of 30 Grade 11 students enrolled in General Mathematics, with additional participants included until data saturation was achieved
- ❖ Teachers: All five (5) teachers handling the General Mathematics course
- ❖ School Administrators: Three (3) administrators, namely the school principal, assistant principal, and subject area coordinator

This sampling approach ensured that participants had relevant knowledge and could provide rich, meaningful insights into the implementation of the curriculum.

Research Instrument

Data were collected using semi-structured interview guides designed to elicit detailed responses from participants.

The interview questions focused on:

- a) curriculum content
- b) instructional strategies
- c) learning resources
- d) attainment of learning outcomes
- e) support mechanisms
- f) challenges encountered

The interview guide was subjected to expert validation to ensure clarity, relevance, and alignment with the research objectives. Interviews allowed flexibility for probing, enabling participants to elaborate on their experiences and perspectives.

Data Gathering Procedure

Prior to data collection, the researcher secured approval from the Schools Division Office and permission from the school principal. Participants were informed of the purpose of the study and provided informed consent.

Data were gathered through in-depth interviews and focus group discussions (FGDs) with selected participants. The interviews were audio-recorded with permission and later transcribed for analysis. Data collection continued until data saturation was reached, where no new themes emerged.

Statistical Design

The collected data were analyzed using thematic analysis based on Braun and Clarke's (2021) approach.

The process involved:

1. Familiarization with the data
2. Coding of significant responses
3. Categorization of codes into themes
4. Review and refinement of themes
5. Interpretation of findings

This method enabled the identification of key patterns and insights related to the pilot implementation of the General Mathematics course.

RESULTS AND DISCUSSIONS

TEACHERS' PERCEPTIONS OF THE IMPLEMENTATION OF GENERAL MATHEMATICS

Curriculum Content

Findings indicate that teachers perceive the General Mathematics curriculum as relevant and aligned with the objectives of the strengthened Senior High School curriculum; however, its breadth presents instructional challenges. Participants noted that the extensive coverage requires careful pacing, reinforcement, and differentiation to ensure student understanding. For instance, Teacher 1 emphasized the need for time management due to the wide range of topics, while Teacher 2 described certain lessons as cognitively demanding for Grade 11 learners.

These findings suggest that while the curriculum supports the development of higher-order thinking skills, its scope may limit depth of learning if not supported by appropriate instructional strategies. This aligns with previous studies indicating that broad curriculum coverage can hinder mastery without adequate scaffolding and pacing (Ignacio & Bajet, 2025).

Instructional Strategies

Teachers reported employing learner-centered, contextualized, and technology-integrated instructional strategies to enhance student engagement and comprehension. These included the use of real-life examples, collaborative learning, and digital platforms. Teacher 3 highlighted the use of contextualized instruction, while Teacher 4 emphasized the integration of ICT tools such as Khan Academy.

These findings indicate that teachers actively adapt their instructional approaches to address the demands of the curriculum. Consistent with existing literature, contextualized and interactive teaching strategies improve engagement and promote higher-order thinking skills (Darling-Hammond et al., 2020; OECD, 2023).



Learning Resources

A recurring theme among teachers was the limited availability of instructional resources, particularly textbooks and updated materials. As a result, teachers relied heavily on digital resources to support instruction. Teacher 2 noted the absence of textbooks, while Teacher 5 emphasized the need for updated and diverse materials.

This suggests that resource limitations remain a significant barrier to effective curriculum implementation. Prior research supports that inadequate learning resources can negatively affect instructional delivery and student engagement (OECD, 2023).

Learning Outcomes

Teachers generally perceived that students could achieve the intended learning outcomes; however, attainment varied depending on student readiness and the level of instructional support provided. **Teacher 1** noted that most students achieved the objectives when lessons were contextualized and reinforced, although some required additional support.

These findings highlight the importance of scaffolding, differentiation, and formative assessment in facilitating learning. This is consistent with research emphasizing the role of guided instruction and feedback in improving student outcomes (Black & Wiliam, 2018).

Challenges in Implementation

Teachers identified several challenges affecting implementation, including limited instructional time, diverse learner readiness, large class sizes, and insufficient resources. These constraints were reported to impact both teaching effectiveness and student learning.

The findings underscore that successful curriculum implementation is influenced not only by curriculum design but also by systemic and contextual factors. This supports existing literature on barriers to effective educational reform (Opfer & Pedder, 2011).

STUDENTS' EXPERIENCES IN GENERAL MATHEMATICS

Learning Experiences

Students described their experiences as both challenging and reinforcing. Difficulties were associated with complex formulas, fast-paced instruction, and retention issues. However, revisiting prior knowledge from junior high school enhanced their understanding and confidence.

This suggests that prior knowledge plays a critical role in supporting learning in mathematics. The findings align with cognitive learning theories emphasizing the importance of scaffolding and knowledge integration (Dong et al., 2020).

Perception of Content and Relevance

Students perceived General Mathematics as moderately to highly difficult but recognized its relevance to real-life applications, particularly in financial contexts.

This indicates that perceived usefulness can enhance motivation and engagement despite the difficulty of the subject. This finding is supported by research linking relevance to increased student motivation and learning outcomes (Bakker et al., 2023).

Teaching Methods and Activities

Students reported that interactive and activity-based teaching methods improved engagement and understanding. Group work, hands-on activities, and gamified tasks were identified as effective instructional strategies. These results support the effectiveness of active learning approaches in promoting engagement and conceptual understanding (Freeman et al., 2020).

Learning Resources

Students emphasized the importance of accessible and varied learning resources, including modules and digital materials. However, limited access to technology was identified as a constraint for some learners.

This finding highlights the need for equitable access to both digital and print resources to support diverse learning needs.

Confidence and Learning Progress

Students reported increased confidence when they observed improvement in their academic performance and received adequate practice and support.

This suggests that self-monitoring and feedback are critical in developing confidence and competence in mathematics. This aligns with research on self-regulated learning and academic achievement (Zimmerman, 2022).

Suggested Improvements

Students recommended slower instructional pacing, clearer explanations, increased use of activities, and improved access to learning materials.

These suggestions emphasize the need for more learner-centered instructional adjustments to enhance comprehension and engagement.

ADMINISTRATORS' PERSPECTIVES ON CURRICULUM IMPLEMENTATION

Support Mechanisms

Administrators reported the provision of structured support mechanisms, including teacher training, technical assistance, and student orientations. These initiatives were perceived as essential in facilitating curriculum implementation.



This finding highlights the role of institutional support in ensuring teacher readiness and effective program delivery (Harris & Jones, 2019).

Monitoring and Evaluation

Administrators emphasized the importance of systematic monitoring and evaluation practices, such as lesson log checking, attendance monitoring, and assessment review.

These practices reflect the application of formative evaluation, which supports continuous improvement during the implementation phase. This is consistent with literature emphasizing the role of monitoring in ensuring curriculum fidelity (Fullan, 2016).

Policy Alignment

Findings indicate that implementation is strongly aligned with DepEd policies, with limited flexibility for contextual adaptation.

While this ensures standardization and accountability, it may also restrict responsiveness to local needs. This aligns with studies highlighting the tension between policy fidelity and contextualization (UNESCO, 2025).

Challenges and Recommendations

Administrators identified key challenges, including limited resources, inadequate technological infrastructure, and insufficient stakeholder awareness. To address these issues, they recommended enhanced professional development, improved resource provision, stronger stakeholder engagement, and continuous monitoring.

These findings underscore the importance of systemic and collaborative support in sustaining curriculum reforms.

CONCLUSION

The following are the conclusions for the study that are based on the previously presented findings and their implications.

1. Teachers perceive the General Mathematics course as relevant, well-structured and aligned with the objectives of the strengthened Senior High School curriculum. However, the breadth of content, limited instructional time, insufficient resources and varying student readiness constrain effective implementation. While students can attain the intended learning outcomes, achievement levels vary and require instructional support, differentiation and continuous teacher training.
2. Students perceive the course as both challenging and engaging. Difficulties arise from complex content, fast pacing, and limited retention, but understanding improves through interactive, contextualized and well-explained instruction. Learning outcomes are enhanced by practice, guidance, and access to resources, although confidence and comprehension are influenced by instructional pacing and support.

3. School administrators view the implementation as structured and policy-driven with established support mechanisms such as training, monitoring, and coordination. However, implementation is limited by insufficient learning materials, inadequate technological resources, and the need for stronger stakeholder involvement, particularly from parents and learners.

RECOMMENDATION

Based on the findings and conclusions of the study, the following recommendations are proposed to address the identified weak points in the pilot implementation of the General Mathematics course under the Strengthened Senior High School Curriculum:

1. Teachers are encouraged to strengthen the implementation of the General Mathematics course by applying differentiated and scaffolded instructional strategies, pacing lessons appropriately, and prioritizing essential competencies to support learners with varying levels of mathematical readiness. Continuous professional development in learner-centered pedagogy, contextualized teaching, and ICT integration should also be sustained to improve instructional delivery and enhance student engagement.
2. Students should be encouraged to actively participate in learning by regularly reviewing lessons, practicing mathematical skills, and engaging in collaborative and activity-based learning opportunities. Schools may also implement structured remediation, review sessions, and peer-assisted learning programs to help students strengthen their understanding and retention of mathematical concepts.
3. School administrators and educational leaders should enhance institutional support for the implementation of the General Mathematics curriculum by ensuring the adequate provision of learning resources, strengthening ICT infrastructure, supporting continuous teacher training, and maintaining effective monitoring and feedback systems to improve teaching practices and student learning outcomes.

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AUTHOR'S BIONOTE



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