

Project SIMPLE Math: A Structured Intervention Model in Enhancing the Proficiency and Engagement of Learners in Mathematics

Jocelyn O. Rivera¹, Christopher Midea²

¹*School Head/Head Teacher VI, Department of Education-Schools Division Office-Rizal, Tanay North National High School, Tanay, Rizal, Philippines*

²*Master Teacher II, Department of Education-Schools Division Office-Rizal, Francisco P. Felix Memorial National High School, Cainta, Rizal, Philippines*

Email of Corresponding Author: jocelyn.rivera004@deped.gov.ph

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Abstract

This study evaluated Project SIMPLE Math (Structured Intervention Model for Progressive Learning and Engagement) as a school-based intervention for improving the mathematical proficiency and engagement of Grade 9 learners at Francisco P. Felix Memorial National High School–Main. Anchored in the multidimensional perspective of student engagement and supported by structured mathematics intervention principles, the study employed a quantitative research approach involving 50 Grade 9 learners and all Grade 9 Mathematics teachers. Participants were selected through purposive and convenience sampling. Data were gathered using teacher-made pre- and post-intervention assessments, a questionnaire checklist, classroom observations, recorded interviews, Mean Percentage Score (MPS) data, and five validated curriculum-aligned Tag-lish Learners' Activity Sheets. Descriptive statistics, weighted mean, and paired-samples t-tests were used for data analysis. Findings showed substantial improvement in mathematical proficiency, with the proportion of learners classified as Proficient or Advanced increasing from 14% to 62%. The mean assessment score increased from 15.05 to 31.66, with a statistically significant pre-test–post-test difference. The Mathematics MPS also increased from 45.34% to 50.87%, with a statistically significant difference. Learners reported high interest and motivation, high confidence and positive attitudes toward Mathematics, very high participation and collaboration, and high perceived effectiveness of the intervention. The study concludes that Project SIMPLE Math supported improvements in both mathematical performance and learner engagement. Continued implementation, refinement of intervention materials, sustained monitoring, and appropriate adaptation for other quarters or grade levels are recommended. The study primarily supports SDG 4 – Quality Education by addressing mathematics learning gaps through structured and accessible instructional support. It contributes to educational and institutional sustainability by promoting evidence-based intervention, continuous instructional improvement, learner inclusion, and context-responsive teaching practices.

Keywords: Learner Engagement; Mathematical Proficiency; Mathematics Education; Project SIMPLE Math; Structured Intervention

1. Introduction

Mathematical proficiency is fundamental to learners' academic development because it supports logical reasoning, quantitative literacy, problem-solving, and the capacity to apply knowledge to everyday situations. However, difficulties in mathematics frequently extend beyond deficiencies in computational or conceptual skills. Learners may also experience low motivation, weak confidence, anxiety, limited classroom participation, and disengagement, all of which can interfere with sustained learning. These concerns are particularly important during secondary education, when mathematical concepts become increasingly abstract and cumulative and when unresolved foundational difficulties can affect subsequent learning. The present study focuses on Project SIMPLE Math (Structured Intervention Model for Progressive Learning and Engagement), a school-based intervention designed to address low mathematical proficiency and disengagement among Grade 9 learners at Francisco P. Felix Memorial National High School. The intervention uses structured, curriculum-aligned, teacher-developed Tagalog-English or Tag-lish Learners' Activity Sheets (LAS), together with guided activities and assessments intended to provide learners with more accessible and systematic opportunities for mathematical practice. Rather than examining achievement alone, the study considers both mathematical proficiency and learner engagement, recognizing that meaningful improvement in mathematics education involves not only what learners can accomplish academically but also how actively, confidently, and persistently they participate in the learning process.

Mathematics is essential in basic education because it develops analytical reasoning, problem-solving, decision-making, and functional numeracy. At the secondary level, weaknesses in prerequisite skills can make more advanced concepts difficult to understand, highlighting the need for structured interventions. Research supports systematic and targeted approaches for learners experiencing mathematics difficulties. Gersten et al. (2009) emphasized explicit and organized instruction, while Jitendra et al. (2018) and Myers et al. (2021) reported positive effects of mathematics interventions among secondary learners. Powell et al. (2021) further identified explicit instruction, multiple representations, problem-solving, and mathematical language as common features of effective interventions. Prediger et al. (2019) also showed that well-designed instructional materials supported by systematic implementation can strengthen mathematics learning. These findings support Project SIMPLE Math, which uses curriculum-aligned LAS, guided activities, and assessments to address learning gaps. However, its effectiveness must still be examined within its specific school context; thus, the study evaluates changes in learners' proficiency and engagement following the intervention. The need for such an intervention emerged from the educational conditions observed at Francisco P. Felix Memorial National High School. Grade 9 learners demonstrated relatively low Mean Percentage Scores (MPS) in Mathematics, while classroom observations indicated concerns regarding interest and engagement. These conditions suggested that achievement difficulties might involve both cognitive learning gaps and affective or behavioral barriers to participation. Project SIMPLE Math was therefore developed as a localized response that provides a more structured learning environment while attending to learners' motivation, confidence, participation, and perceptions of mathematics.

A consistent theme in mathematics intervention research is the need to provide struggling learners with more explicit, systematic, and focused opportunities to develop mathematical understanding. Gersten et al. (2009) emphasized instructional practices that organize mathematical learning into manageable and comprehensible processes. This principle remains evident in more recent secondary-level intervention research. Jitendra et al. (2018) reported a positive overall effect of mathematics interventions among secondary students experiencing learning difficulties, whereas Myers et al. (2021) found that mathematics interventions for adolescents produced meaningful improvements across different intervention types. These findings indicate that targeted support can supplement regular instruction when learners have not yet attained expected mathematical competencies. Powell et al. (2021) further demonstrated that effective mathematics intervention is not represented by a single technique. Their systematic review identified several recurring components, including explicit instruction, mathematical language, problem-solving instruction, representations, and organizational supports. This perspective is relevant to Project SIMPLE Math because the intervention combines structured learning materials, guided mathematical tasks, assessment, and curriculum alignment rather than depending on an isolated remediation activity. A second important theme concerns the relationship between engagement and achievement. Fredricks et al. (2004) conceptualized school engagement as multidimensional, involving behavioral, emotional, and cognitive dimensions. Behavioral engagement concerns participation, effort, and involvement in learning activities; emotional engagement concerns learners' interest, feelings, and attitudes toward school and learning; and cognitive engagement involves psychological investment, persistence, and strategic engagement with academic tasks.

Contemporary evidence continues to support the relevance of this framework. In a meta-analysis involving 69 independent studies and 196,473 participants, Lei et al. (2018) found positive relationships between academic achievement and overall student engagement as well as behavioral, emotional, and cognitive engagement. Within mathematics specifically, Fung et al. (2018) found that different forms of engagement were associated with mathematical achievement among a large international sample of 15-year-old learners and that learners

demonstrating engagement across multiple domains tended to show stronger achievement. Motivation is likewise an important component of academic engagement. Lazowski and Hulleman (2016), through a meta-analysis of motivation interventions in education, found that theoretically grounded motivational interventions can positively influence students' academic outcomes. This reinforces the importance of supporting learners' interest and willingness to participate alongside the development of academic competencies. Learners' confidence in their mathematical ability is also important to learning. Schöber et al. (2018) found reciprocal relationships between self-efficacy and achievement in Mathematics, suggesting that learners' beliefs about their capabilities and their academic performance can reinforce one another over time. Conversely, negative affective experiences may interfere with mathematics learning. Zhang et al. (2019), in a meta-analysis examining mathematics anxiety and performance, identified a significant negative relationship between the two variables, indicating that higher mathematics anxiety is generally associated with lower mathematics performance. These findings strengthen the rationale for examining confidence, attitudes, motivation, and engagement alongside mathematical proficiency. Thus, improvement in test performance represents only one dimension of a successful mathematics intervention. Learners who become more willing to participate, collaborate, ask questions, persist in solving problems, and view themselves as capable mathematics learners may develop conditions that support continued learning. Accordingly, Project SIMPLE Math examines interest and motivation, confidence and attitudes toward mathematics, participation and collaboration, and perceived effectiveness of the intervention in addition to academic proficiency.

Language constitutes another important consideration in mathematics learning because learners must understand not only mathematical symbols and operations but also instructional explanations, questions, directions, and mathematical vocabulary. Bernardo (2005) earlier examined the relationship between language and mathematics learning within the Philippine context, demonstrating the importance of language considerations in mathematical instruction. More recent Philippine research provides additional justification for examining the pedagogical use of Tagalog-English communication. Canilao (2018) observed that multilingual mathematics classrooms frequently involve the use of English, Tagalog, and Taglish for different instructional and interpersonal purposes. Bravo-Sotelo (2020) similarly documented Tagalog-English code-switching in mathematics classroom discourse and found that it was frequently used when teachers explained mathematical concepts, solutions, and examples. Bravo-Sotelo and Metila (2023) further found that code-switching among Philippine mathematics teachers could serve ideational, textual, interpersonal, and communicative functions. Beyond the Philippine context, Prediger and Neugebauer (2023) demonstrated that language-responsive mathematics instruction can support conceptual understanding among learners from different language backgrounds. Their findings reinforce the importance of intentionally connecting language support with mathematical content in linguistically diverse classrooms. The literature, however, does not imply that code-switching automatically improves achievement. Bravo-Sotelo and Metila (2023) emphasized that code-switching may either facilitate or complicate instruction depending on how it is used. Thus, the Tag-lish LAS incorporated into Project SIMPLE Math should be understood as a contextualized instructional scaffold rather than as an inherently superior language of mathematics instruction. Its intended purpose is to reduce unnecessary linguistic barriers while retaining appropriate mathematical terminology and curriculum content.

At the local level, Project SIMPLE Math addresses low Mathematics MPS and reduced engagement among Grade 9 learners at Francisco P. Felix Memorial National High School through curriculum-aligned Tag-lish LAS and structured activities. Nationally, this concern reflects broader challenges in Philippine mathematics education, as Filipino learners obtained an average mathematics score of 355 in PISA 2022, with only 16% reaching at least Level 2 proficiency (OECD, 2023). Globally, evidence shows that structured mathematics interventions can improve secondary learners' performance, although outcomes depend on context and implementation (Jitendra et al., 2018; Myers et al., 2021). These conditions highlight the importance of evaluating locally developed interventions such as Project SIMPLE Math within the specific needs and learning environment of its intended learners.

The study is anchored in the multidimensional perspective of student engagement proposed by Fredricks et al. (2004), which views engagement as behavioral, emotional, and cognitive. In Project SIMPLE Math, participation and collaboration represent behavioral engagement, while interest, motivation, confidence, and attitudes reflect affective dimensions, and sustained involvement in mathematical activities represents cognitive engagement. This framework is supported by evidence linking engagement with academic and mathematics achievement (Lei et al., 2018; Fung et al., 2018). The study is also informed by structured mathematics intervention research showing that systematic instruction, guided problem-solving, well-designed materials, and organized learning opportunities can support learners experiencing mathematics difficulties (Gersten et al., 2009; Jitendra et al., 2018; Myers et al., 2021; Powell et al., 2021; Prediger et al., 2019). Accordingly, Project SIMPLE Math examines changes in proficiency, MPS, and learner engagement following the intervention. Because the study used a one-group design without a comparison group, the findings indicate improvement after implementation but do not establish that the intervention alone caused the observed changes.

Existing research shows that structured mathematics interventions can support learners with difficulties and that engagement is associated with academic achievement. However, important contextual gaps remain. Much of the literature comes from settings outside the Philippines or focuses on learners formally identified with mathematics difficulties, leaving limited evidence on teacher-developed interventions for heterogeneous Grade 9 learners in Philippine public schools. Studies also tend to emphasize achievement more than engagement. Project SIMPLE Math addresses these gaps by examining proficiency alongside interest, motivation, confidence, participation, collaboration, and perceptions of the intervention. It also explores the contextual use of Tagalog-English instructional support, which has demonstrated pedagogical value in mathematics classrooms (Bravo-Sotelo, 2020; Bravo-Sotelo & Metila, 2023; Prediger & Neugebauer, 2023). By generating local pre- and post-intervention evidence, the study provides a basis for data-informed instructional planning, refinement of learning materials, and decisions on the continued or expanded implementation of Project SIMPLE Math.

The study is most directly aligned with Sustainable Development Goal 4: Quality Education, which seeks to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. In particular, SDG Target 4.1 calls for children and young people to complete quality primary and secondary education that produces relevant and effective learning outcomes. Mathematics proficiency is explicitly incorporated into the global indicator for this target. SDG Target 4.6 likewise emphasizes the development of functional literacy and numeracy (United Nations, 2015; UNESCO, n.d.). Project SIMPLE Math contributes to this objective at the school level by attempting to reduce learning gaps through targeted instructional support. Its relevance to SDG 4 is not limited to higher test scores. The project also addresses educational inclusion by providing additional structured learning opportunities to learners who may otherwise continue progressing through the curriculum without adequately mastering prerequisite mathematical competencies. The study further supports the equity dimension of quality education. A structured intervention that identifies learning difficulties, provides accessible learning materials, monitors progress, and adjusts instruction according to evidence can help schools respond more systematically to differences in learner readiness. In this sense, Project SIMPLE Math operationalizes SDG 4 within classroom practice by translating the broad objective of equitable and effective learning into a localized intervention that can be evaluated, revised, and improved.

Project SIMPLE Math contributes to educational sustainability by using school-level evidence to identify learning difficulties, implement structured interventions, assess outcomes, and refine instructional practices. Its use of curriculum-aligned LAS, teacher involvement, and continuous monitoring supports more responsive and evidence-based mathematics instruction. The intervention also promotes learner equity by providing additional support to students who experience difficulties in Mathematics and by helping prevent learning gaps from becoming persistent disadvantages. At the institutional level, the project strengthens continuous improvement through collaborative material development, assessment, and instructional refinement. Its use of Tag-lish materials further reflects linguistic and cultural responsiveness by making instruction more accessible while maintaining appropriate mathematical content. Overall, Project SIMPLE Math supports quality education, learner inclusion, contextualized instruction, and sustainable school-based improvement.

2. Material and methods

2.1 Research Design

The study employed a quantitative research approach to determine changes in the mathematical proficiency and engagement of Grade 9 learners following the implementation of Project SIMPLE Math. Pre-intervention and post-intervention assessments were used to measure changes in learners' mathematical proficiency, while a questionnaire checklist and classroom observations were used to assess engagement and perceptions of the intervention. Recorded interviews using the questionnaire checklist also provided supplementary information regarding learners' interest, motivation, participation, and overall learning experience in mathematics.

2.2 Locale of the Study

The study was conducted at Francisco P. Felix Memorial National High School–Main, where Project SIMPLE Math was implemented among Grade 9 learners. The intervention was developed in response to the relatively low Mean Percentage Scores (MPS) in Mathematics and concerns regarding learner interest and engagement observed at the school.

2.3 Respondents of the Study

The participants consisted of all Grade 9 mathematics teachers and 50 Grade 9 students of Francisco P. Felix Memorial National High School–Main. The student participants represented learners with varying levels of mathematical proficiency and engagement, while the participating teachers had varying years of experience in teaching Mathematics.

2.4 Sample and Sampling Procedure

The study involved 50 Grade 9 student participants together with all Grade 9 mathematics teachers. Purposive and convenience sampling were employed in selecting participants who were available and willing to participate in the study. The student sample included learners with different levels of mathematical proficiency and engagement to obtain information relevant to the implementation and assessment of Project SIMPLE Math.

2.5 Research Instrument

Data were collected using teacher-made tests, pre-intervention and post-intervention assessments, a questionnaire checklist, classroom observations, and five Tag-lish Learners' Activity Sheets (LAS) developed by the researchers. The LAS combined Tagalog and English and contained structured learning activities aligned with the curriculum. The five LAS were validated by at least five Grade 9 mathematics teachers before their use in the intervention. The assessment instruments were used to determine learners' mathematical proficiency before and after the implementation of Project SIMPLE Math. The questionnaire checklist and classroom observations were used to obtain information on learner engagement and the perceived effectiveness of the intervention, particularly in relation to interest, motivation, participation, confidence, and the overall learning experience in Mathematics.

2.6 Data Gathering Procedure

Prior to the implementation of Project SIMPLE Math, baseline information was obtained through pre-intervention assessments, the second-quarter MPS for School Year 2023–2024, and classroom observations. These data established the learners' initial levels of mathematical proficiency and engagement. Project SIMPLE Math was subsequently implemented using the teacher-developed and validated Tag-lish LAS and structured learning activities aligned with the Grade 9 Mathematics curriculum. During implementation, learners' participation and engagement were observed. After the intervention, post-intervention assessments were administered to determine changes in mathematical proficiency. Data on student engagement and perceptions of the intervention were also gathered through the questionnaire checklist, classroom observations, and recorded interviews. These procedures provided information on learners' interest, motivation, participation, confidence, and overall learning experience following the intervention.

2.7 Data Analysis Techniques

Quantitative data obtained from the pre-intervention and post-intervention assessments were analyzed using descriptive statistics to summarize learner performance. Mean scores and related descriptive measures were used to describe changes in mathematical proficiency before and after the implementation of Project SIMPLE Math. A paired-samples t-test was used to determine whether the difference between pre-intervention and post-intervention scores was statistically significant. The Mean Percentage Scores before and after implementation were likewise compared to determine changes in overall Grade 9 Mathematics performance. Responses obtained through the questionnaire checklist and classroom observations were analyzed using the weighted mean to describe the level of learner engagement and the perceived effectiveness of the intervention.

3. Results and Discussion

3.1 Mathematical Proficiency and Performance of Grade 9 Learners

3.1.1 Proficiency Levels Before and After Project SIMPLE Math

Before the implementation of Project SIMPLE Math, 25 of the 50 learners (50%) were classified at the Beginning level, 10 (20%) at the Developing level, eight (16%) at the Approaching Proficiency level, five (10%) at the Proficient level, and two (4%) at the Advanced level. After the intervention, only four learners (8%) remained at the Beginning level, while five (10%) were Developing, 10 (20%) were Approaching Proficiency, 18 (36%) were Proficient, and 13 (26%) were Advanced. Overall, the combined proportion of learners classified as Proficient or Advanced increased from 14% before the intervention to 62% after its implementation. The substantial reduction in the number of learners at the Beginning level, together with the increase in the Proficient and Advanced categories, indicates improved mathematical proficiency following Project SIMPLE Math. This pattern is consistent with research demonstrating that structured and targeted mathematics interventions can improve learning outcomes among secondary learners experiencing difficulties. Jitendra et al. (2018), in a meta-analysis of mathematics interventions for secondary students with mathematics difficulties, found positive effects of intervention programs on mathematics outcomes. Similarly, Myers et al. (2021) reported a moderately large overall effect of mathematics interventions for adolescents with mathematics difficulties. Powell et al. (2021) further identified explicit instruction, multiple representations, problem-solving activities, mathematical language, mnemonics, and graphic organizers as recurring instructional components in effective mathematics interventions. Although Project SIMPLE Math has its own localized structure and context, the observed movement of learners toward higher proficiency categories is consistent with the broader evidence that systematic instructional support can assist learners who require additional opportunities to develop mathematical competencies.

3.1.2 Changes in Pre-Test and Post-Test Performance

The learners obtained a pre-test mean score of 15.05 with a standard deviation of 7.15, corresponding to the Developing level. Following the intervention, the post-test mean increased to 31.66 with a standard deviation of 5.72, corresponding to the Proficient level. This represents a mean increase of 16.61 points. The lower standard deviation in the post-test also indicates that learner scores became less dispersed after the intervention. The increase in mean performance indicates that learners demonstrated greater mastery of the assessed mathematical competencies after participating in Project SIMPLE Math. The movement from the Developing to the Proficient level suggests that the structured activities provided learners with opportunities to reinforce mathematical concepts and skills. This finding is consistent with Myers et al. (2021), who found that mathematics interventions for secondary learners with mathematics difficulties generally produced positive achievement outcomes across different intervention approaches. Likewise, Powell et al. (2021) concluded that the majority of the middle-school mathematics interventions included in their systematic review produced positive student-level outcomes. The reduced variability in post-test scores in the present study further suggests that improvement was observed across the group rather than being concentrated solely among a few high-performing learners. Such a pattern supports the value of structured instruction that provides learners with systematic opportunities for guided practice and reinforcement.

3.1.3 Significant Difference in Mathematical Proficiency

The paired-samples t-test comparing the pre-test and post-test results yielded a t-value of 9.71, with 49 degrees of freedom and a reported p-value of 0.0001. Since the reported p-value was below the 0.05 level of significance, the null hypothesis of no significant difference between the pre-test and post-test scores was rejected. The statistically significant difference supports the observed improvement in mathematical proficiency following the implementation of Project SIMPLE Math. Together with the increase in mean scores from 15.05 to 31.66, the result indicates that learners performed substantially better in the post-intervention assessment. This finding parallels the meta-analytic evidence of Jitendra et al. (2018), who reported a significant positive overall effect of mathematics interventions on the performance of secondary students experiencing mathematics difficulties. Myers et al. (2021) similarly found meaningful achievement gains across studies involving interventions for adolescents with mathematics difficulties. These studies reinforce the educational value of providing structured and purposeful instructional support to learners experiencing difficulty in Mathematics. Within the scope of the present study, however, the significant pre-test–post-test difference should be interpreted as evidence of improvement following participation in Project SIMPLE Math rather than as definitive evidence that the intervention alone caused all observed changes.

3.1.4 Mean Percentage Score Before and After the Intervention

The Grade 9 Mathematics MPS increased from 45.34% in School Year 2023–2024 to 50.87% in School Year 2024–2025, representing an improvement of 5.53 percentage points. The study reports a t-value of -4.32 and a p-value of 0.0005, indicating a statistically significant difference at the 0.05 level. The higher MPS provides additional evidence of improved overall Mathematics performance following the implementation period. Although the magnitude of the MPS increase was smaller than the change observed between individual pre-test and post-test scores, the improvement is consistent with research emphasizing that sustained and systematically implemented mathematics interventions can strengthen student achievement. Powell et al. (2021) found that 59 of the 72 studies examined in their systematic review demonstrated positive student-level mathematics outcomes, indicating that structured interventions can generate meaningful improvements when instructional components are appropriately organized. Myers et al. (2021) likewise found that intervention effectiveness may vary according to factors such as content domain, intervention duration, and the measures used to assess outcomes. The present MPS findings therefore reinforce the importance of sustained implementation, continuous monitoring, and careful evaluation when determining whether improvements in Mathematics performance can be maintained over time.

3.2 Learner Engagement Following Project SIMPLE Math

3.2.1 Interest and Motivation

Learners reported a high level of interest and motivation, with an overall mean of 3.45. The highest-rated indicators included finding Mathematics more interesting after the implementation of Project SIMPLE Math (3.50) and believing that improvement in Mathematics could be achieved through consistent effort (3.50). Learners also reported increased motivation to study Mathematics (3.48), improved focus during lessons (3.45), greater anticipation of Mathematics lessons (3.42), and more active participation in Mathematics activities (3.40). These findings indicate that Project SIMPLE Math was associated not only with improved academic performance but also with favorable learner responses toward Mathematics. The structured activities appeared to make learning experiences more engaging and helped learners maintain attention during instruction. This finding is supported by Fung et al. (2018), who examined 295,416 15-year-old learners across 34 countries and found that greater affective, behavioral, and cognitive engagement was associated with higher mathematics achievement. Similarly, Lei et al. (2018), through a meta-analysis of 69 studies involving 196,473 participants, established a positive relationship between student engagement and academic achievement. These findings reinforce the importance of fostering learners' interest, motivation, participation, and persistence alongside the development of mathematical

competencies. Thus, the favorable engagement ratings observed in Project SIMPLE Math represent an educationally important outcome because sustained engagement can provide learners with greater opportunities to participate meaningfully in mathematics learning.

3.2.2 Confidence and Attitude Toward Mathematics

Confidence and attitude toward Mathematics obtained an overall mean of 3.38, interpreted as high confidence. Learners reported greater confidence in solving mathematical problems (3.40), reduced anxiety when completing mathematical exercises (3.35), increased willingness to ask questions and clarify difficulties (3.30), and a more positive perception of Mathematics as useful and enjoyable (3.35). The highest indicator in this area was learners' belief that they could improve in Mathematics through consistent effort, with a mean of 3.50. The findings suggest that the intervention supported a more positive disposition toward Mathematics. Increased confidence and reduced anxiety are important because affective experiences can influence how learners approach and persist in mathematical tasks. Barroso et al. (2021), in a meta-analysis encompassing 747 effect sizes, found a statistically significant negative relationship between mathematics anxiety and mathematics achievement, demonstrating that higher levels of mathematics anxiety are generally associated with lower achievement. The present finding that learners reported reduced anxiety and increased confidence is therefore particularly relevant, as a more supportive attitude toward Mathematics may encourage learners to attempt problems, seek clarification, and remain engaged when confronted with challenging tasks. Fung et al. (2018) likewise emphasized the importance of affective engagement in mathematics learning. These findings indicate that the potential contribution of Project SIMPLE Math extends beyond proficiency gains by addressing affective conditions that may influence learners' willingness and persistence in mathematical learning.

3.2.3 Participation and Collaboration

Participation and collaboration received the highest overall engagement rating, with a mean of 3.50, interpreted as very high engagement. Learners reported increased participation in group discussions (3.55), more diligent completion of assigned tasks (3.52), greater willingness to assist classmates with mathematical problems (3.50), enjoyment of collaborative mathematics activities (3.48), and increased participation in peer problem-solving activities (3.47). The high ratings indicate that the structured intervention encouraged active and collaborative participation. Project SIMPLE Math provided opportunities for learners to interact with classmates, discuss mathematical ideas, assist peers, and participate jointly in problem-solving activities. Wang and Sperling (2020), in their systematic review of self-regulated learning interventions in mathematics classrooms, observed that interventions incorporating group work demonstrated positive effects on mathematics performance and self-regulated learning. Their review suggests that collaboration can provide opportunities for communication, explanation, and shared engagement in mathematical tasks. Similarly, Lei et al. (2018) found that behavioral engagement, which includes active participation in learning activities, is positively associated with academic achievement. In the context of Project SIMPLE Math, collaborative participation may have contributed to a classroom environment in which learners could seek assistance, explain their reasoning, compare solutions, and engage more actively with mathematical content.

3.2.4 Perceived Effectiveness of the Intervention

Learners rated the perceived effectiveness of Project SIMPLE Math with an overall mean of 3.42, interpreted as highly effective. They agreed that the structured approach made mathematical concepts easier to understand (3.48) and that the intervention materials and activities were engaging (3.50). Learners also perceived that the intervention helped them retain mathematical concepts (3.35), improve their mathematical skills (3.38), and was suitable for recommendation to other students experiencing difficulty in Mathematics (3.40). These perceptions complement the improvement observed in learners' assessment results and indicate favorable acceptance of Project SIMPLE Math. The learners' perception that structured activities helped make mathematical concepts more understandable is consistent with Powell et al. (2021), who identified explicit instruction, multiple representations, problem-solving instruction, and mathematical language among frequently occurring components of effective mathematics interventions. Jitendra et al. (2018) and Myers et al. (2021) likewise demonstrated that systematically designed interventions can positively influence mathematics performance among secondary learners experiencing difficulties. Although learners' positive perceptions do not independently establish intervention effectiveness, their favorable assessment of the materials and activities strengthens the evidence regarding the intervention's acceptability and perceived usefulness. When considered together with the improvement in assessment performance, these findings provide support for continued evaluation and refinement of Project SIMPLE Math.

3.3 Integrated Findings on Proficiency and Engagement

Overall, the findings demonstrate simultaneous improvement in mathematical proficiency and favorable levels of learner engagement following Project SIMPLE Math. Learners moved from lower to higher proficiency classifications, the mean assessment score increased from 15.05 to 31.66, and the Grade 9 Mathematics MPS increased from 45.34% to 50.87%. Significant differences were reported for both the pre-test and post-test comparison and the MPS comparison. At the same time, learners reported high interest and motivation (3.45),

high confidence and positive attitudes toward Mathematics (3.38), very high participation and collaboration (3.50), and high perceived effectiveness of the intervention (3.42). Taken together, the findings indicate that Project SIMPLE Math addressed both the academic and engagement dimensions identified at the beginning of the study. This convergence is consistent with the broader literature indicating that mathematics achievement and learner engagement are interconnected dimensions of successful learning. Fung et al. (2018) found that learners demonstrating stronger engagement across affective, behavioral, and cognitive domains generally attained higher mathematics achievement, while Lei et al. (2018) confirmed a positive overall association between student engagement and academic performance. At the same time, meta-analytic and systematic-review evidence demonstrates that structured mathematics interventions can positively influence the achievement of learners experiencing mathematical difficulties (Jitendra et al., 2018; Myers et al., 2021; Powell et al., 2021). The present findings therefore suggest that the value of Project SIMPLE Math lies not solely in improving assessment scores but also in creating structured learning opportunities that encourage interest, confidence, participation, collaboration, and persistence. Continued implementation should nevertheless be accompanied by systematic monitoring and refinement of the intervention materials to determine whether these gains are sustained and whether the approach remains responsive to learner needs across subsequent quarters or grade levels.

4. Conclusion & Recommendations

The findings demonstrate that Grade 9 learners showed improved mathematical proficiency and engagement following the implementation of Project SIMPLE Math. The proportion of learners at the Beginning level decreased substantially, while those classified as Proficient and Advanced increased. Mean performance improved from 15.05 in the pre-test to 31.66 in the post-test, with a statistically significant difference between the two assessments. The Mathematics Mean Percentage Score (MPS) likewise increased from 45.34% to 50.87%, with a statistically significant difference. Learners also reported favorable engagement in terms of interest and motivation, confidence and attitude toward Mathematics, participation and collaboration, and perceived effectiveness of the intervention. Overall, the results indicate that the structured and curriculum-aligned approach of Project SIMPLE Math supported improvements in learner performance while promoting greater confidence, participation, motivation, and engagement in Mathematics.

Based on the findings, Project SIMPLE Math may be continued and further refined as a structured intervention for Grade 9 learners experiencing difficulties in Mathematics. The Learners' Activity Sheets and related instructional activities should be reviewed and revised as needed based on assessment results, classroom observations, learner feedback, and lessons gained from implementation. Continuous monitoring and evaluation should be maintained to determine whether improvements in proficiency and engagement are sustained. The findings and identified good practices may also be shared with relevant school and division stakeholders, while possible implementation in other quarters or grade levels may be considered after appropriate adaptation of the intervention materials. Consistent with the original study, the incorporation of appropriate technology may also be explored to further improve and expand the intervention.

The study was confined to 50 Grade 9 learners and Grade 9 Mathematics teachers from Francisco P. Felix Memorial National High School–Main, with participants selected through purposive and convenience sampling. The evaluation relied on pre-intervention and post-intervention assessments, MPS data, teacher-made instruments, questionnaire responses, interviews, and classroom observations within the specific school context. Consequently, the findings principally describe the outcomes of Project SIMPLE Math among the participants and setting included in the study and should be considered within this defined scope when the intervention is applied to other grade levels or educational settings.

5. Compliance with ethical standards

The authors declare no conflict of interest. The study observed ethical standards for research involving Grade 9 learners. Participation was voluntary, informed consent and appropriate permissions were secured, and the confidentiality of participants and their responses was protected. The data were used solely for research purposes and reported in aggregate form. Necessary school approval was obtained prior to the conduct of the assessments, questionnaires, interviews, and classroom observations.

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