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UNLOCKING ALGEBRA: DEVELOPING STRATEGIC INTERVENTION MATERIALS TO BOOST GRADE VII COMPETENCIES

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ABSTRACT

This study aimed to develop a Strategic Intervention Material (SIM) addressing the Least Learned Competencies of Grade 7 students in a public secondary school in Agusan del Sur, specifically focused on solving problems involving algebraic expressions during the 2021-2022 academic year. The research employed an educational design approach to systematically design, develop, and evaluate the intervention. The study identified the most preferred activities by student evaluators across the six facets of understanding, which included "Concept Map," "Represent Me," "My Facemask," "Tiles," "You Are X Years Old," and "Synthesis Journal." Furthermore, teacher validators rated the instructional quality of the SIM in terms of content, format, presentation, organization, and accuracy as very satisfactory, with an overall weighted mean of 3.63. These results highlighted extension activity and implementation of the SIM to address student's difficulties in the least learned areas, contributing valuable insights for enhancing instructional materials in Mathematics education.

KEYWORDS: *Strategic Intervention Material (SIM), Solving Problems, Algebraic Expression, 6 Facets of Understanding, Math Education.*

INTRODUCTION

The topic of Algebra is considered challenging in a Mathematics course. Research in South Africa's Mathematics exam revealed that the students had a lot of difficulties with algebraic expression (Mamba, 2012). The students had difficulties retaining a particular lesson and poor performance in acquiring knowledge, particularly in solving problems involving algebraic expressions (Pagaran et al., 2022). Thus, they sometimes find it uninteresting and unimportant (Ncube, 2016). In addition, Marpa (2019) claimed that the algebraic proficiency of the students is quite low. These issues were heightened throughout the pandemic.

The COVID-19 pandemic significantly impacted educational systems worldwide, leading to temporary school closures. UNESCO advocated for distance learning as a solution, ushering in the "new normal" in education (Asian Development Bank, 2021). However, in this new setup, many students identified Mathematics as the most challenging subject (Dangle & Sumaoang, 2020). In the Philippines, concerns regarding Mathematics achievement have been prevalent, especially in high school (Capuno et al., 2019). A report by Bernardo et al. (2022) highlighted that students failed to meet the Department of Education's (DepEd) standards in key subjects, including Mathematics, as reflected in the National Achievement Test results.

Challenges for students, parents, and teachers intensified, particularly in economically disadvantaged households. Many parents could not afford the necessary gadgets or internet access for their children's online education, which hindered participation in distance learning (Capinding, 2022). The Department of Education implemented various alternative learning modalities, such as online and modular distance learning, to accommodate these difficulties (Llego, 2021). However, students' struggles with Mathematics persisted, with many experiencing heightened anxiety and negative perceptions of the subject (Derling et al., 2021). Despite these challenges, research shows that while Mathematics self-concept positively affects learning, math anxiety remains a significant barrier, even in face-to-face settings (Delima & Cahyawati, 2021).

Despite the challenges brought by the COVID-19 pandemic, high school students remained motivated to excel in Mathematics, driven by a strong desire to perform well. This motivation persisted even when learning was limited to modules. Their eagerness to learn Mathematics was fueled by various factors, including personal goals, societal expectations, and environmental influences, reflecting both intrinsic and extrinsic sources of motivation (Rahiem, 2021). To support this motivation, mathematics teachers developed creative self-learning modules based on the Department of Education's curriculum guide (Department of Education, 2020). These modules were distributed to students every week, allowing them to study independently during the pandemic. The use of self-learning modules helped students become more autonomous in their learning while minimizing the risks associated with limited interaction with teachers and classmates.

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Algebra is often viewed as an extension of arithmetic, serving as both a problem-solving tool and a method for representing and modeling mathematical concepts. Key elements of algebraic content include variables, exponents involving variables, pattern generalization, and the formation and solving of equations (Compayan & Dollete, 2019). However, many secondary students around the world struggle with solving word problems in Algebra, making it one of the least mastered skills in the subject (Bush & Karp, 2013). As students progress through middle and secondary school, they are expected to understand the basics of defining patterns, creating algebraic rules, forming and applying algebraic expressions, and solving equations (Nataraj & Thomas, 2016).

Despite these expectations, a study revealed that many students struggle with mastering the core concepts of algebraic expressions, leading to misunderstandings in areas like factoring and simplifying algebraic functions (Daud & Ayub, 2019). These challenges contribute to difficulties in problem-solving and poor retention of lessons related to algebraic expressions (Pagaran et al., 2022). As a result, students often find algebra uninteresting and perceive it as lacking relevance (Ncube, 2016).

Moreover, Ketema (2021) documented that the reason for students' difficulty is that they cannot easily grasp the process-product duality inherent in algebraic expressions, that is, the fact that the expression stands for a number as well as for instructions to perform operations on the number or letter, in result they had difficulty in altering algebraic expression. Furthermore, Mohamoud (2022) specified that creating an equation and solving it requires the conceptual and procedural development of algebraic expression. In addition, there was research on Algebra instruction states that it is important to comprehend the reasons why some students struggle to master algebra.

The challenges students face in mastering mathematics can be effectively addressed through the use of intervention materials. Arpilleda (2021) emphasized that incorporating intervention materials in Mathematics is a crucial strategy for supporting students who struggle with the subject. These materials, often referred to as strategic intervention materials (SIM), are designed to help students acquire competency-based skills that they may have missed during traditional classroom instruction (Sadsad, 2022). SIM, as described by Reyes and Falle (2022), focuses on reteaching concepts and skills that students find most difficult to grasp.

In the 21st century, teachers integrate technology, creativity, and resourcefulness into SIM, making it a highly effective tool for remediating least-mastered competencies among modern learners (Ucat, 2022). When carefully structured and developed, SIM aids students in overcoming conceptual gaps and strengthens their understanding of mathematics. By properly utilizing SIM, teachers can help students gain both theoretical and practical mathematical skills, enhancing their overall grasp of the subject (Dacumos, 2016).

Furthermore, strategic Intervention Material (SIM) allows differentiated instruction as a teaching and learning methodology that acknowledges and responds to the differences in the students' preparedness, interest, and learner profiles or styles, including the kinds and types of activities of the interests of the students (Swanson, 1989; Izuagba et al., 2015). In addition, Weselby (2014) detailed that differentiated instruction entails modifying the implementation and design of the lesson and its activities to meet the needs of all students. Children learn and explore in a variety of ways through it, but they all retain the same key concepts and comprehension of the subject matter. He also added that the use of continual assessment and flexible grouping makes this possible whether teachers are differentiating material, process, products, or learning environment.

Likewise, Strategic Intervention Material (SIM) provides hope for STEM students who generally have bad impressions and have to cope with their needs in a particular field in Mathematics (Luzano, 2020). The Strategic Intervention Material (SIM) was suitable and appropriate for STEM students for them to become competent in Pre-Calculus and master the learning competencies required for the subject. In addition, Olawale (2013) specified that it is important to recognize the importance of creating instructional and intervention resources in the teaching-learning process. It is crucial to the achievement of a productive interaction between teaching and learning. In terms of enhancing, organizing, and making teaching and learning smooth, vivid, and tangible, these resources will be helpful and effective if properly created.

Moreover, Salviejo et al. (2014) exposed that the use of SIM was effective in terms of improving the performance and learning approach of the students. Also, strategic intervention materials (SIM) have a significant positive impact on student learning by engaging multiple senses, which helps students learn faster and more effectively. It stimulates student activity and increases their understanding by making the learning experience more engaging through different instructional methods (Suarez & Casinillo, 2020). Additionally, another study indicated that there was a significant reduction in the learners' mean number of least mastered skills after SIM implementation. Furthermore, the SIM was created as a tool for students to use for remediation to teach one of the least mastered competencies. As a result, it was found that the Strategic Intervention Material in Mathematics works well as a remedial tool for the students in one of their least-learned topics (Dumigsi & Cabrella, 2019).

Suarez and Casinillo (2020) highlight that strategic intervention materials (SIM) have a significant positive impact on student learning by engaging multiple senses, which helps students learn faster and more effectively. The researchers noted that SIM stimulates student activity and increases their understanding by making the learning experience more engaging through different instructional methods. While the study mentions the effectiveness of SIM in improving academic performance through enriched activities,

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Creating a Strategic Intervention Material (SIM) for Grade 7 on solving problems involving algebraic expressions can be enhanced by integrating the six facets of learning from Wiggins and McTighe's (2005) Understanding by Design framework. These facets—explanation, interpretation, application, perspective, empathy, and self-knowledge—allow for a comprehensive learning approach that goes beyond memorization, encouraging deeper understanding. Explanation helps students articulate mathematical concepts clearly, while interpretation focuses on making sense of problems, such as translating word problems into algebraic expressions. The application emphasizes using knowledge in new contexts, such as real-world problem-solving, enhancing students' ability to transfer learning.

The SIM also fosters perspective, enabling students to compare multiple methods for solving algebraic problems and encouraging them to reflect on the most efficient approaches. Empathy ensures that the material is accessible to all students, especially those who find Algebra challenging, by offering differentiated instruction. Finally, self-knowledge helps students develop metacognitive skills, encouraging them to reflect on their learning processes and identify areas for improvement (Wiggins & McTighe, 2005). Together, these facets provide a holistic framework for creating SIMs that support not only the development of mathematical skills but also the overall growth of students as independent, reflective learners. By integrating these six facets of learning into the SIM for Grade 7 students, the material can become more engaging, reflective, and effective in helping students understand algebraic expressions. Fostering explanation, interpretation, application, perspective, empathy, and self-knowledge ensures that students not only learn mathematical content but also develop deeper cognitive and affective skills that contribute to long-term success in mathematics.

On the other hand, at a public secondary school in Agusan del Sur, Grade 7 students have been struggling with solving problems involving algebraic expressions in Mathematics, as indicated by their least learned competencies. This suggests that students' difficulties in Algebra, particularly during distance learning, may negatively impact their performance in more advanced Mathematics subjects. This study is timely as there are no existing studies on the development of Strategic Intervention Materials (SIM) specifically for Grade 7 Mathematics at Agusan del Sur State College of Agriculture and Technology. As an initial exploration into SIM development and validation, this study provides valuable insights for a range of stakeholders. School principals can use it as a guide for supporting teachers in addressing student difficulties with Algebra. Mathematics teachers benefit from a ready-to-use SIM and data on students' weak areas, helping them save preparation time. Curriculum developers may find inspiration for integrating SIM into the curriculum and enhancing teaching practices. Students receive assistance in mastering challenging algebraic concepts, and parents can help their children at home using the SIM. Additionally, future researchers can use this study as a foundation for further investigation into students' least-learned skills in Algebra.

METHODOLOGY

Research Design

This study used educational design research, a structured approach that focuses on the systematic design, creation, and evaluation of educational tools, strategies, resources, and systems to address complex challenges in educational practice. Beyond developing solutions, it also aims to deepen the understanding of the characteristics and development processes of these interventions (Plomp & Nieveen, 2007). This approach was particularly suitable for this study as it explored how the Strategic Intervention Material (SIM) for solving problems involving algebraic expressions was designed based on specific learning competencies.

Research Respondents

The study involved both student and teacher evaluators from various educational backgrounds. Among the student evaluators were 25 participants who chose their preferred activities from each aspect of understanding, following the principle that learning activities should cater to students' interests. The teacher validators included five experienced educators: two with a Master in Science Education (MSciEd), two with a Master of Arts in Education (MAED), and one mathematics teacher with over three years of experience. These teachers assessed the instructional quality of the Strategic Intervention Material (SIM) designed for solving algebraic expressions.

The validators were selected purposefully based on their interest in and involvement with instructional material development. This non-probability sampling method ensured that knowledgeable individuals provided specialized and valuable feedback relevant to the study's goals. As noted by Creswell and Clark (2017), this approach enabled the researchers to collect in-depth, meaningful data by selecting respondents capable of contributing to the evaluation and understanding of the SIM.

Research Instruments

The researchers used a checklist to determine which among the three developed learning activities from each facet of understanding was the most preferred by the student evaluators. The checklist underwent validation. The students selected the activities from 3 for the most preferred, 2 for the preferred and 1 for the least preferred.

The assessment rating sheet utilized in this study was based on the Department of Education (2009) Guidelines and Processes for LRMDS Assessment and Evaluation of Localized Materials. The purpose of the tool in this study was to determine the level of Instructional Quality of the material. The level of Instructional Quality was designed to evaluate the Strategic Intervention Material (SIM) in terms of content, format, presentation and organization, and accuracy and up-to-datedness information.

Table 1 shows the mean ranges per factor in the evaluation rating sheet and their corresponding description and interpretation that was used in this study, while the next part of

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the evaluation tool provided the qualitative ratings on whether or not the Strategic Intervention Material (SIM) developed be recommended for reproduction and distribution, and whether or not these resources are acceptable.

Table 1 Rating Scale for Instructional Quality

Range	Verbal Description	Interpretation
3.25-4.00	Very High	This means that the Instructional Quality of SIM in Solving Problems Involving Algebraic Expression is Very Satisfactory.
2.50-3.24	High	This means that the Instructional Quality of SIM in Solving Problems Involving Algebraic Expression is Satisfactory.
1.75-2.49	Low	This means that the Instructional Quality of SIM in Solving Problems Involving Algebraic Expression is poor.
1.00-1.74	Very Low	This means that the Instructional Quality of SIM in Solving Problems Involving Algebraic Expression is Very poor.

Data Gathering Procedure

The researchers submitted a request to the principal of a public National High School to collect secondary data on the list of Least Learned Competencies among grade 7 students. From the identified least-mastered competencies, the researchers selected specific ones to serve as the foundation for creating the material. After developing the material, student evaluators were asked to identify their most preferred learning activities within each facet of understanding. The chosen activities were then refined and subsequently evaluated by teacher validators. Feedback and suggestions from the validators were taken into account to improve the material.

Process in the Development of Strategic Intervention Material

The modified ADDIE (Analyze, Design, Develop, Implement, and Evaluate) model was used in the development stage of this research. Rooted in the early work of Luzano (2020) the model was customized to suit the context of the study which involved different stages: Preparatory Stage, SIM Development, and SIM Validation. Table 2 shows the differences between the ADDIE and the Modified Model.

Table 2 Process in Designing the Strategic Instructional Material

Original ADDIE Model	Modified Model
Analysis	Preparatory Stage
Design	SIM Development
Development	
Implementation	SIM Validation
Evaluation	

Preparatory Stage

This stage played a crucial role in setting the foundation for the development of the Strategic Intervention Material (SIM) by focusing on the identification of the Least Learned Competencies (LLC) from the past academic years. The researchers conducted a detailed analysis of Grade VII Mathematics performance over the last three years, tracking the areas where students consistently struggled. This comprehensive review helped pinpoint specific competencies that required additional instructional support, ensuring that the SIM would address the most critical learning gaps.

In addition to identifying the LLC, this phase involved the conceptualization and planning of the next set of learning materials. The researchers engaged in brainstorming sessions to decide on the instructional strategies and content that would effectively target these competencies. At this point, important decisions were made regarding the overall structure and format of the SIM, including whether to use text, images, videos, or interactive elements. The planning also included outlining the sequence of activities, determining the type of assessments to be included, and identifying supplementary resources to enhance student understanding. Furthermore, the preparation of the necessary materials, such as worksheets, problem sets, and visual aids, was initiated during this phase to ensure that the SIM would be comprehensive and engaging for learners. This careful planning was essential to ensure that the final product would be both pedagogically sound and aligned with the educational goals of the Department of Education.

SIM Development

This step focused on developing a strategy for creating the material by leveraging the identified Least Learned Competencies (LLC) from the preparatory stage. The process involved designing a storyboard that was structured and presented clearly, with learning objectives aligned to the K to 12 Mathematics Curriculum Guide to ensure compliance with the Department of Education's educational goals.

In the SIM development, the researchers designed activities around the six facets of understanding, drawing content from various sources like books, YouTube, Google, and DepEd materials. They also developed contextualized problems related to the competencies. The instructional materials were customized to match the student's interests, knowledge, abilities, needs, and experiences. In the first phase, three activities were created for each facet of understanding within the topic "Solving Problems Involving Algebraic Expression."

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These facets included explanation, interpretation, application, perspective, empathy, and self-assessment, each designed to encourage deeper reasoning, interpretation, real-world application, multiple perspectives, student engagement, and self-reflection. Finally, 25 student evaluators validated the activities, selecting their preferred activities for each facet.

Validation of the Strategic Intervention Material

In this critical phase, the Strategic Intervention Material (SIM) for solving algebraic expressions was subjected to a thorough evaluation process to ensure its effectiveness and quality. Expert evaluators, consisting of seasoned educators and subject matter specialists, were engaged to review the learning materials in detail. The initial drafts of the SIM were not finalized until they underwent multiple rounds of content checks, careful reviews, and redesigns. These revisions ensured that the material was aligned with learning objectives and standards, while also addressing any gaps or inconsistencies.

Teacher validators played a key role in this process by using a structured rating scale to provide quantitative feedback on the SIM. This assessment covered important aspects such as content accuracy, relevance, instructional design, and learner engagement. Based on the data collected from this evaluation, the material was revised to address any shortcomings. The feedback and suggestions offered by the evaluators were invaluable, helping the researchers to refine and improve the final product.

Additionally, this phase allowed the researchers to identify both the strengths and weaknesses of the SIM. The feedback highlighted areas where the material excelled, such as engaging activities or clear explanations, as well as aspects that needed improvement, such as clarifying instructions or enhancing certain activities. Each version of the SIM was exhibited and discussed in consultation with the experts, ensuring that every iteration was rigorously vetted before finalization. This iterative process of pre-evaluation and expert consultation was essential in producing high-quality instructional material tailored to meet the learning needs of Grade VII students.

RESULT AND DISCUSSION

Least Learned Competencies of Grade VII Mathematics in the Past Three Years

Table 3 highlights the Least Learned Competencies (LLCs) of Grade 7 students in the second quarter across the last three academic years, revealing persistent struggles in key areas of mathematics. The first competency, M7ME-IIb-1, identified in A.Y. 2019-2020, involved converting measurements between the Metric and English systems, a fundamental skill in mathematics that was least mastered by students. In S.Y. 2020-2021 and A.Y. 2021-2022, the competency M7ME-IIb-2, focused on solving problems related to unit conversions, was the least learned. This difficulty with measurement conversions suggests ongoing gaps in students' understanding of fundamental mathematical operations.

Another recurrent challenge was translating between English phrases and mathematical expressions, reflected in competency M7AL-IIc-1, which remained the least learned for three consecutive academic years. Similarly, students struggled with evaluating algebraic expressions for given variable values (M7AL-IIc-4) in both A.Y. 2019-2020 and A.Y. 2021-2022, indicating a consistent weakness in handling algebraic concepts. Other problematic areas included multiplying and dividing polynomials (M7AL-IIe-2) in A.Y. 2019-2020 and solving algebraic expressions (M7AL-IIg-2) in both A.Y. 2019-2020 and A.Y. 2021-2022. Lastly, solving equations and inequalities in one variable (M7AL-IIj-2) posed challenges in A.Y. 2019-2020. Among these competencies, the researchers selected M7AL-IIg-2, focused on solving algebraic expression problems, as the target for developing a Strategic Intervention Material (SIM) to help address these persistent difficulties. This approach aligns with studies that emphasize the importance of intervention materials in addressing the least learned skills (Suarez & Casinillo, 2020).

Bush and Karp (2013) also highlighted that solving word problems in Algebra poses a significant challenge for secondary school students globally, making it one of the least mastered skills. Pagaran et al. (2022) further emphasized that students often struggle with retaining lessons and exhibit poor performance, especially in solving problems related to algebraic expressions.

Table 3. Second Quarter Least Learned Competencies in Grade 7 Mathematics

LLC Code	LLC for S.Y. 2019-2020	LLC for S.Y. 2020-2021	LLC for S.Y. 2021-2022	Frequency
M7ME-IIb-1	1			1
M7ME-IIb-2		1	1	2
M7AL-IIc-1	1	1	1	3
M7AL-IIc-4	1		1	2
M7AL-IIe-2	1			1
M7AL-IIg-2	**1**		**1**	**2**
M7AL-IIj-2	1			1

Legend:

M7ME-IIb-1 *convert measurement from one unit to another in both Metric and English systems*
M7ME-IIb-2 *solving problems involving the conversion of units of measurement*
M7AL-IIc-1 *translates English phrases to mathematical phrases and vice versa*
M7AL-IIc-4 *evaluates the algebraic expression for given values of the variable*
M7AL-IIe-2 *multiplies and divides polynomials*

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M7AL-IIg-2	***solving problems involving algebraic expression***
M7AL-IIj-2	*solving problems involving equations and inequalities in one variable*

Most Preferred Learning Activities by the Students Based on 6 Facets of Understanding

Table 4 presents the list of learning activities aligned with the six facets of understanding, their corresponding weighted mean, and remarks based on student evaluations. The study highlights the most preferred activities for each facet of understanding, which include "Concept Map" for explanation, "Represent Me" for interpretation, "My Facemask" for application, "Tiles" for perspective, "You Are X Years Old" for empathy, and "Synthesis Journal" for self-assessment. These activities were chosen by the students based on their effectiveness in enhancing comprehension and engagement with algebraic expressions.

The "Concept Map" was rated highest in the explanation facet, as it allowed students to visually organize and articulate their understanding of mathematical concepts (Wiggins & McTighe, 2005). "Represent Me" was favored for interpretation, where students translated word problems into algebraic expressions, improving their ability to comprehend and relate mathematical problems to real-world scenarios (Perkins & Salomon, 1992). For application, "My Facemask" emerged as the top activity, linking algebraic expressions to everyday objects like facemasks, making the lesson more relatable and practical. In terms of perspective, "Tiles" provided various ways of solving algebraic problems, helping students explore multiple problem-solving strategies. "You Are X Years Old" was preferred for empathy, as it created a personal connection to the mathematical content, while the "Synthesis Journal" encouraged self-reflection, fostering metacognitive skills and aiding students in assessing their learning (Brown et al., 2014).

Differentiated activities as a teaching and learning approach recognize and adapt to the varying levels of student readiness, interests, and learning styles. This method ensures that the activities align with students' individual preferences and needs, providing a more personalized learning experience (Tomlinson, 2014). By tailoring the types and formats of activities to match student interests and learning profiles, differentiated instruction promotes engagement and maximizes each learner's potential for success.

Table 4. Most Preferred Learning Activities by the Student Evaluators

6 Facets of Understanding	Weighted Mean	Remarks
EXPLANATION		
Concept map	2.44	**Most Preferred**
Revisiting Translating	1.76	Least Preferred
Correct Me If I Am Wrong	1.8	Preferred
INTERPRETATION		
My Model	1.8	Least Preferred
Matching Algebraic Expression	2	Preferred
Represent Me	2.2	**Most Preferred**
APPLICATION		
My Facemask	2.24	**Most Preferred**
Cost of my Pens	1.8	Least Preferred
Oh No! My Notebooks!	1.96	Preferred
PERSPECTIVE		
Where's My Partner?	1.96	Preferred
Tiles	2.16	**Most Preferred**
Cross Number Puzzle	1.88	Least Preferred
EMPATHY		
The Magic Number	2	Preferred
You Are X Years Old	2.16	**Most Preferred**
Model Me	1.84	Least Preferred
SELF-ASSESSMENT/ KNOWLEDGE		
Term Frame	1.76	Least Preferred
Synthesis Journal	2.28	**Most Preferred**
3-2-1 Chart	1.96	Preferred

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Instructional Quality of the SIM in Solving Problems Involving Algebraic Expression

Table 5 displays the validation results of the Strategic Intervention Material (SIM) designed for solving problems involving algebraic expressions, as evaluated by teacher validators. The assessment focused on key aspects of instructional quality: content, format, presentation, organization, accuracy, and up-to-datedness of information. The overall weighted mean of 3.63, with a verbal description of "Very High," indicates that the SIM is considered to have a very satisfactory level of instructional quality. This evaluation suggests that the SIM is a reliable educational resource for Grade VII students, with its content appropriately aligned to their learning needs, and the format and presentation being well-organized to support effective learning (Suarez & Casinillo, 2020).

Moreover, the high score in instructional quality reflects the material's capacity to enhance student engagement and understanding of algebraic concepts. The focus on accuracy and up-to-date information ensures that learners are exposed to relevant and precise content, which is crucial for their academic progress (Nilsen & Gustafsson, 2016).). Such validation results reinforce the value of SIMs as a pedagogical tool, helping address students' least-learned competencies while ensuring the material meets instructional standards.

On the other hand, the lowest weighted mean among the four indicators in the evaluation of the Strategic Intervention Material (SIM) was for presentation and organization, which received a mean score of 3.40, classified as "Very High." Despite being the lowest, this still indicates that the presentation and organization of the SIM are considered very satisfactory by teacher validators. This suggests that the activities within the material are engaging, interesting, and easily understandable for Grade VII students. Additionally, the material demonstrates a logical and smooth flow of ideas, with language and sentence structures tailored to the student's comprehension levels (Suarez & Casinillo, 2020).

The presentation and organization of the SIM also reflect a well-thought-out adaptation of vocabulary and sentence length to match the learners' reading and cognitive abilities. Varying sentence and paragraph structures ensure that the material maintains the students' interest and engagement, contributing to its instructional effectiveness (Tomlinson, 2014). Although this indicator had the lowest mean, it still confirms that the material's design aligns with educational standards for effective teaching and learning in mathematics.

Table 5. Result of Evaluation on the Instructional Quality of the SIM

Criteria	Weighted Mean	Interpretation
Content	3.54	Very Satisfactory
Format	3.57	Very Satisfactory
Presentation and Organizations	3.40	Very Satisfactory
Accuracy and Up-to-datedness of Information	4.0	Very Satisfactory
Overall Weighted Mean	**3.63**	**Very Satisfactory**

Conclusion and Recommendation

The researchers identified the competency coded M7AL-IIg-2, which focuses on solving problems involving algebraic expressions, as the least understood skill among Grade 7 students at a particular public school. To address this gap, they developed a Strategic Intervention Material (SIM) specifically designed to improve these underdeveloped skills. The SIM's content and activities were tailored to align with the students' preferences and interests, making it more engaging and effective in enhancing their learning. Furthermore, the results indicated that the instructional quality of the SIM was rated as "Very Satisfactory." Teacher validators confirmed that the SIM's content is well-suited for Grade 7 students, with a clear, well-organized format, and accurate and up-to-date information, making it a reliable and valuable resource for learners.

Based on the study's findings, it is recommended that institutions like Agusan del Sur State College of Agriculture and Technology (ASSCAT) take a proactive role in enhancing classroom instruction by organizing seminars and training sessions focused on the creation and implementation of Strategic Intervention Materials (SIMs). These sessions would equip educators with the skills needed to effectively develop and use SIMs in their teaching practices. In alignment with its commitment to providing meaningful community engagement, the College of Teacher Education at ASSCAT, particularly the Bachelor of Secondary Education program, should continue its extension activities in selected secondary schools. These activities could include hands-on workshops that guide teachers through the SIM development process. Additionally, the college's extension programs should expand to involve other subject areas, ensuring that a broader range of disciplines benefits from these capacity-building efforts.

For future researchers working on similar projects, it is recommended to first pilot-test the materials to identify any necessary revisions before their final implementation. Improving the activities by incorporating real-world, contextualized problems, refining the design, and submitting the materials for re-validation will ensure a thorough development process. After pilot testing, the SIM should be implemented to evaluate its effectiveness and its impact on factors such as student motivation, engagement, and overall performance.

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