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Students' assessment of the variety of engaging books and learning resources used in Mathematics instruction

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Abstract

Aim: This study examined students' assessment of the variety of engaging books and learning resources used in mathematics instruction to provide evidence that may support the improvement of learner-centered teaching, instructional resource development, and mathematics classroom practices. Specifically, it described the respondents' profile in terms of age, sex, and section; determined their assessment of engaging books and learning resources; examined the relationship between these dimensions; and determined whether significant differences existed when respondents were grouped according to their profile variables

Methodology: The study employed a quantitative descriptive-correlational research design involving 80 student-respondents. Data were collected using a researcher-made questionnaire that underwent expert validation and demonstrated good reliability (Cronbach's alpha = 0.83). Frequency counts, percentages, and means were used for descriptive analysis, while Kendall's tau-b correlation coefficient, the Kruskal–Wallis H test, and the Mann–Whitney U test were employed for inferential analysis at the 0.05 level of significance.

Results: The respondents consistently assessed that a variety of engaging books and learning resources was evident in mathematics instruction. No significant relationship was found between students' assessment of engaging books and engaging learning resources. Likewise, no significant differences were observed in students' assessments when grouped according to age, sex, and section.

Conclusion: The findings indicate that students consistently perceived the use of diverse and engaging instructional materials regardless of their demographic characteristics. Sustaining the provision and effective integration of varied books and learning resources can strengthen learner-centered mathematics instruction, enhance classroom engagement, and support teachers, school administrators, and curriculum planners in improving instructional resource development and educational practice.

Keywords: *mathematics instruction, engaging books, learning resources, students' assessment, instructional materials, learner-centered learning*

INTRODUCTION

Mathematics education plays a fundamental role in developing learners' critical thinking, logical reasoning, and problem-solving abilities, which are essential competencies for success in the twenty-first century. However, despite continuous curriculum reforms and technological advancements, mathematics remains one of the most challenging subjects for many students worldwide (Mosia & Egara, 2025). International educational organizations have emphasized that improving mathematics learning requires not only competent teachers and effective instructional strategies but also access to diverse, engaging, and learner-centered instructional resources that promote meaningful learning experiences (Sbaragli & Panero, 2024). The availability of high-quality books and learning materials encourages active participation, enhances conceptual understanding, and supports students with varying learning preferences.

Recent educational research has highlighted the importance of providing students with a wide variety of instructional resources beyond traditional textbooks. Engaging books, manipulative materials, digital resources, interactive activities, and supplementary learning materials have been shown to increase learners' motivation, improve mathematical reasoning, and foster deeper conceptual understanding (Jannah et al., 2024; Oumelaid et al., 2023). As educational systems continue to embrace student-centered and competency-based approaches, the diversity and quality of learning resources have become important indicators of effective mathematics instruction.

In the Philippines, the implementation of the Kindergarten to Grade 12 (K–12) curriculum has reinforced the need to improve the quality and accessibility of instructional resources in mathematics (Dicdiquin et al., 2023; Estrobello & Cajandig, 2026). The Department of Education (DepEd) has consistently emphasized the provision of contextualized, inclusive, and engaging learning materials to enhance learners' academic achievement and numeracy skills. Nevertheless, many schools continue to encounter challenges related to adequacy, variety, and accessibility of mathematics learning resources. While textbooks remain the primary instructional material in many classrooms, opportunities to utilize supplementary books, digital platforms, manipulatives, and other innovative resources often vary across schools. Such disparities may influence students' engagement, learning experiences, and overall perception of mathematics instruction.

Previous studies have extensively examined mathematics achievement, instructional strategies, teacher effectiveness, and technology integration in mathematics education (Darmanova et al., 2025; Rajangam, 2025). Similarly, numerous investigations have explored the impact of digital learning resources on students' academic performance and motivation (Engelbrecht & Borba, 2023). However, relatively few studies have specifically examined students' assessment of the variety of engaging books and learning resources available for mathematics instruction. Existing research has largely focused on teachers' perspectives or instructional practices, with limited attention given to students as the primary beneficiaries of these educational resources.

Addressing this gap is important because students' assessment of instructional resources provides valuable evidence for improving curriculum implementation, resource allocation, and instructional planning. Insights from learners can assist school administrators, curriculum developers, and mathematics teachers in identifying strengths and areas requiring enhancement in the provision of engaging educational materials. Furthermore, evaluating students' perceptions may contribute to the development of evidence-based interventions that support more effective and inclusive mathematics teaching.

Accordingly, the present study examined students' assessment of the variety of engaging books and learning resources used in mathematics instruction. Specifically, it described the demographic profile of the respondents in terms of age, sex, and section; determined their assessment of the variety of engaging books and learning resources used in mathematics instruction; examined the relationship between students' assessment of these instructional resources; and determined whether significant differences existed in students' assessments when grouped according to selected profile variables. The findings of the study are expected to contribute to the improvement of instructional resource provision and strengthen mathematics teaching practices by promoting engaging, learner-centered educational environments. Moreover, the study underscores the value of instructional innovation through the strategic integration of diverse and engaging learning resources that foster meaningful mathematical understanding, active learner participation, and higher-order thinking skills. Its findings provide pedagogical insights that can guide teachers, curriculum developers, and educational leaders in designing more responsive and evidence-based mathematics instruction. Beyond the local context, the study offers international educational implications by contributing to the global discourse on innovative, inclusive, and resource-enhanced mathematics education, supporting the advancement of teaching practices aligned with international standards and the development of globally competent learners.

Review of Related Literature and Studies

Variety of Engaging Learning Resources in Mathematics Education

The availability of diverse and engaging learning resources has become a critical component of effective mathematics instruction. Contemporary mathematics education emphasizes that students learn more effectively when they are exposed to multiple instructional resources that promote active engagement, conceptual understanding, and meaningful problem-solving (Moldavan et al., 2021). Rather than relying solely on traditional textbooks, current instructional approaches encourage the integration of supplementary books, visual representations, manipulatives, digital applications, interactive activities, and contextualized learning materials to accommodate diverse learning needs and preferences (Akintayo et al., 2024). Recent reviews of mathematics curricula likewise emphasize that modern



mathematics instruction should provide varied learning experiences that develop conceptual understanding while responding to learners' diverse backgrounds and abilities (Toromade et al., 2024).

As schools transitioned from remote to face-to-face learning, educators increasingly recognized that students benefit from flexible learning materials that encourage independent exploration, collaboration, and sustained engagement. The use of multiple instructional resources enables teachers to differentiate instruction and support learners with varying levels of mathematical readiness while promoting higher-order thinking and problem-solving skills (Oumelaid et al., 2023). These developments have shifted mathematics classrooms toward more learner-centered environments where instructional resources function not merely as content repositories but as tools for active knowledge construction (Oppong-Gyebi et al., 2022).

Engaging Books and Instructional Materials in Mathematics Learning

Engaging books and supplementary instructional materials play a significant role in improving students' attitudes toward mathematics (Yildirim, 2025). High-quality mathematics books that incorporate real-life contexts, visual representations, inquiry-based activities, and problem-solving tasks help learners connect abstract mathematical concepts with authentic experiences (Hwang & Son, 2021). Such resources stimulate curiosity, reduce mathematics anxiety, and encourage learners to participate more actively during instruction (Tang, 2025). Research has shown that integrating narrative-based and literature-supported mathematics activities promotes positive learning dispositions and deeper conceptual understanding, particularly among younger learners.

Similarly, contemporary instructional materials extend beyond printed books to include digital resources, interactive simulations, educational videos, online learning platforms, and teacher-developed learning modules (Wu, 2023). These resources provide multiple representations of mathematical concepts, allowing students to visualize abstract ideas and practice skills at their own pace (Lo et al., 2024).

Synthesis and Research gap

The reviewed literature consistently demonstrates that the availability of diverse and engaging learning resources is essential to effective mathematics instruction. Studies have emphasized that incorporating a variety of instructional materials, such as supplementary books, visual aids, manipulatives, digital resources, interactive activities, and contextualized learning materials, enhance students' conceptual understanding, critical thinking, and problem-solving abilities. Moreover, the integration of engaging books and innovative instructional materials has been found to improve students' attitudes toward mathematics by increasing their motivation, reducing mathematics anxiety, and encouraging active participation in classroom learning. The literature further indicates that providing multiple learning resources supports differentiated instruction, accommodates diverse learning preferences, and creates learner-centered environments that foster meaningful mathematical learning experiences.

Despite these significant contributions, existing studies have primarily focused on the effectiveness of instructional materials in improving students' academic achievement, motivation, engagement, and mathematical understanding. Much of the available research has examined the perspectives of teachers regarding the selection and utilization of instructional resources or evaluated the impact of specific interventions and digital technologies on learning outcomes. Comparatively limited attention has been given to students' own assessment of the variety of engaging books and learning resources available in mathematics instruction. Likewise, few studies have investigated whether students' assessments differ according to demographic characteristics such as age, sex, and section, or explored the relationships among students' perceptions of these instructional resources within the classroom context.

To address these gaps, the present study examined students' assessment of the variety of engaging books and learning resources used in mathematics instruction. Specifically, it determined students' perceptions of the availability and variety of these resources, described the respondents according to selected demographic characteristics, and examined whether significant differences existed when respondents were grouped according to age, sex, and section.

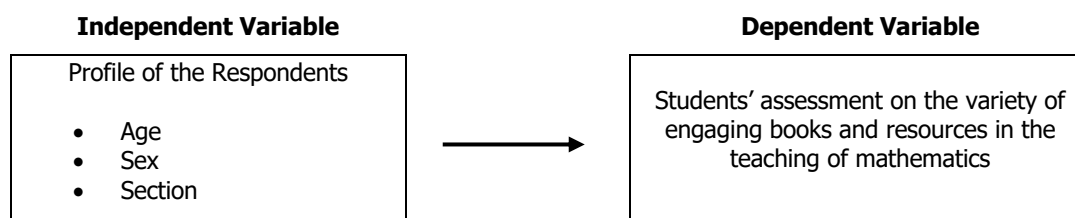
Theoretical Framework

This study was anchored on Constructivist Learning Theory, primarily advanced by Jerome Bruner (1966) and further influenced by the works of Jean Piaget (1972). Constructivist Learning Theory posits that learners actively construct knowledge by connecting new information with their prior experiences rather than passively receiving information from teachers. Learning occurs most effectively when students engage with meaningful experiences, explore concepts through varied instructional materials, and actively participate in the learning process. This theoretical perspective was considered more appropriate than Social Constructivism because the present study primarily examined

students' individual perceptions and assessments of engaging books and learning resources rather than the influence of social interaction, collaboration, or shared knowledge construction. Likewise, while Cognitive Learning Theory emphasizes internal mental processes such as memory, attention, and information processing, it does not specifically emphasize the learner's active construction of meaning through interaction with instructional resources, which constitutes the central focus of this investigation.

The theory suggests that the quality and variety of learning resources significantly influence students' engagement, motivation, and learning experiences. When instructional materials are relevant, accessible, and engaging, students are more likely to participate actively in classroom activities, develop positive attitudes toward mathematics, and achieve deeper understanding of mathematical concepts. Consequently, students' perceptions of the availability and usefulness of these learning resources provide valuable indicators of the effectiveness of mathematics instruction. Guided by this theory, the study examined students' assessment of the variety of engaging books and learning resources used in mathematics instruction and determined whether their assessments differed according to age, sex, and section. The findings are expected to provide empirical evidence that can support the improvement of instructional resource provision and promote more engaging, learner-centered mathematics instruction.

Figure 1. Research Paradigm



The research paradigm illustrates the relationship between the variables investigated in the study. The independent variable consists of the profile of the student-respondents, specifically their age, sex, and section. These demographic characteristics were examined to determine whether differences exist in students' assessment of the variety of engaging books and learning resources used in mathematics instruction.

The dependent variable is the students' assessment of the variety of engaging books and learning resources in the teaching of mathematics. This variable reflects the students' perceptions of the availability, diversity, and adequacy of instructional materials that support mathematics learning.

The paradigm assumes that students' demographic characteristics may influence how they perceive and assess the variety of engaging books and learning resources provided during mathematics instruction. Guided by this framework, the study determined the respondents' profile, assessed their perceptions of the variety of engaging books and learning resources, and examined whether significant differences in these assessments existed when respondents were grouped according to age, sex, and section.

Statement of the Problem

The availability of diverse and engaging books and learning resources is an essential component of quality mathematics instruction because these instructional materials facilitate students' conceptual understanding, engagement, critical thinking, and meaningful learning experiences. Despite continuous efforts by schools to improve instructional resource provision, variations may still exist in the availability, accessibility, and utilization of engaging instructional materials, which may influence students' learning experiences and perceptions of mathematics instruction. Understanding how students assess the variety of engaging books and learning resources is important because their perceptions provide valuable evidence regarding the effectiveness of instructional practices and resource provision within mathematics classrooms. Moreover, determining whether these perceptions differ according to selected demographic characteristics may provide useful information for teachers, school administrators, curriculum developers, and educational policymakers in strengthening instructional planning, curriculum implementation, and learner-centered mathematics instruction. Hence, this study was conducted to examine students' assessment of the variety of engaging books and learning resources used in mathematics instruction.

Research Objectives

General Objective

To determine the students' assessment of the variety of engaging books and learning resources used in mathematics instruction.

Specific Objectives

1. To describe the profile of the student-respondents in terms of:
 - 1.1 age;
 - 1.2 sex; and
 - 1.3 section.
2. To determine the students' assessment of the variety of engaging books and learning resources used in mathematics instruction.
3. To determine whether a significant relationship exists between students' assessment of the variety of engaging books and the variety of engaging learning resources used in mathematics instruction.
4. To determine whether significant differences exist in students' assessment of the variety of engaging books and learning resources when grouped according to age, sex, and section.

Research Questions

1. What is the profile of the student-respondents in terms of:
 - 1.1 age;
 - 1.2 sex; and
 - 1.3 section?
2. What is the students' assessment of the variety of engaging books and learning resources used in mathematics instruction?
3. Is there a significant relationship between students' assessment of the variety of engaging books and the variety of engaging learning resources used in mathematics instruction?
4. Are there significant differences in students' assessment of the variety of engaging books and learning resources when grouped according to age, sex, and section?

Hypotheses

H₀₁: There is no significant relationship between students' assessment of the variety of engaging books and the variety of engaging learning resources used in mathematics instruction.

H₀₂: There are no significant differences in students' assessment of the variety of engaging books and learning resources when grouped according to age, sex, and section.

METHODOLOGY

Research Design

This study employed a descriptive-correlational research design to examine students' assessment of the variety of engaging books and learning resources in mathematics instruction. The descriptive component was utilized to describe the demographic profile of the student-respondents in terms of age, sex, and section, as well as to determine their assessment of the variety of engaging books and learning resources used in mathematics instruction. This design enabled the researcher to obtain a comprehensive description of the respondents' perceptions without manipulating any variables. The design was deemed appropriate for this educational research because it allows the systematic investigation of students' perceptions as they naturally occur in the classroom setting while simultaneously examining the relationships among relevant educational variables.

The correlational component of the study was used to determine whether a significant relationship existed in the students' assessment of the variety of engaging books and learning resources. In addition, the study examined whether significant differences in students' assessments existed when respondents were grouped according to their age, sex, and section. Since the study sought to describe existing conditions and examine relationships and group differences among variables without implementing any intervention or treatment, the descriptive-correlational design was considered the most appropriate research design.



Population and Sampling

The respondents of the study consisted of students enrolled in public secondary schools in the Division of Cavite. These students were selected because they were the primary recipients of mathematics instruction and had direct exposure to the books and learning resources used in their mathematics classes. Their experiences and perceptions provided relevant information for assessing the variety of engaging books and learning resources utilized in mathematics instruction.

A total of 80 students participated in the study. The respondents were selected using simple random sampling. This sampling technique was considered appropriate because it ensured that the selected participants adequately represented the target population and provided reliable information relevant to the objectives of the study.

Research Instrument

The study utilized a researcher-made questionnaire as the primary instrument for data collection. The questionnaire was designed based on an extensive review of related literature and aligned with the objectives of the study, particularly in assessing the variety of engaging books and learning resources used in mathematics instruction.

The instrument consisted of two parts. Part I gathered the demographic profile of the respondents, including age, sex, and section. Part II measured the students' assessment of the variety of engaging books and learning resources in mathematics instruction. The items focused on the availability, diversity, accessibility, relevance, and engagement provided by the instructional books and learning resources used during mathematics classes. The questionnaire employed a four-point Likert scale to measure the respondents' assessment.

To establish the validity of the instrument, the questionnaire was subjected to content validation by five (5) experts, consisting of three specialists in Mathematics Education and two experts in Educational Research and Measurement. Their comments and recommendations were incorporated to improve the clarity, relevance, and comprehensiveness of the items, particularly in terms of content relevance, language clarity, and alignment with the study objectives. Following the revision, the instrument was pilot tested among students who were not included in the actual study.

The reliability of the instrument was established using Cronbach's alpha, which yielded a coefficient of 0.83. This result indicates that the questionnaire had good internal consistency and was considered reliable for the actual data collection.

Data Collection

Prior to the conduct of the study, the researcher secured permission from the school principal and other concerned authorities to administer the questionnaire. After obtaining the necessary approvals, the purpose of the study was explained to the respondents, and informed consent was obtained before their participation.

The researcher personally administered the researcher-made questionnaire to the selected student-respondents during their scheduled class hours. Respondents were given sufficient time to read and answer each item independently. The completed questionnaires were collected immediately after completion to ensure a high retrieval rate and to minimize missing responses. Data collection was conducted over a period of two weeks during the school year 2025-2026.

The collected data were checked for completeness, organized, and encoded for statistical analysis. All responses were treated with strict confidentiality and were used solely for the purposes of the study.

Treatment of Data

Descriptive and inferential statistics were employed to analyze the data. Frequency counts and percentages were used to describe the profile of the student-respondents, while the mean was used to determine the students' assessment of the variety of engaging books and learning resources in mathematics instruction.

To determine the relationship among the indicators of the students' assessment of the variety of engaging books and learning resources, Kendall's tau-b correlation coefficient was employed. To determine whether significant differences existed in the students' assessment when grouped according to age, the Kruskal-Wallis H test was used, while the Mann-Whitney U test was utilized to compare the students' assessment according to sex and section. All inferential analyses were conducted at the 0.05 level of significance.

Ethics in Research

The study adhered to established ethical principles throughout the research process. Prior to data collection, permission to conduct the study was obtained from the school principal and other concerned authorities. The purpose of the study was clearly explained to the respondents, and their participation was entirely voluntary. Informed consent was obtained before the administration of the questionnaire.

The respondents were assured that their identities and responses would remain confidential and would be used solely for academic and research purposes. No personally identifiable information was disclosed in the presentation of the findings. The respondents were also informed of their right to decline participation or withdraw from the study at any point without any penalty or adverse consequences.

All data collected were handled with strict confidentiality, securely stored, and accessed only by the researcher. The study upheld the principles of respect for persons, beneficence, and justice, ensuring that the rights, privacy, and welfare of all participants were protected throughout the conduct of the research.

RESULTS AND DISCUSSION

Table 1.

Profile of the Student-Respondents

Students' Profile	f	%
Age		
12	26	33
13	34	43
14	12	15
15>	8	10
Total	80	100
Sex		
Male	35	44
Female	45	56
Total	80	100
Section		
A	40	50
B	40	50
Total	80	100

Table 1 presents the frequency distribution of the student-respondents according to age, sex, and section. In terms of age, the largest proportion of the respondents were 13 years old (34 or 43%), followed by 12 years old (26 or 33%). Meanwhile, 12 respondents (15%) were 14 years old, while only 8 respondents (10%) were 15 years old and above. With respect to sex, 45 respondents (56%) were female, while 35 respondents (44%) were male. As to section, the respondents were equally distributed between the two classes, with 40 students (50%) from Section A and 40 students (50%) from Section B.

Table 2.

Assessment of the student-respondents on the variety of engaging books and resources

VARIABLE	MEAN	SD	INTERPRETATION
Variety in Engaging Books	3.43	0.48	Always True of my Math Teacher
Variety in Engaging Resources	3.56	0.47	Always True of my Math Teacher
OVERALL MEAN	3.50	0.46	Always True of my Math Teacher

Legend: 4.00-3.25 Always true of my math teacher, 3.24-2.50, Often true of my math teacher, 2.49-1.75, Sometimes true of my math teacher, 1.74-1.00, Never true of my math teacher

Table 2 presents the students' assessment of the variety of engaging books and learning resources used in mathematics instruction. Among the two indicators, Variety in Engaging Resources obtained the highest mean ($M = 3.56$, $SD = 0.47$), followed by Variety in Engaging Books ($M = 3.43$, $SD = 0.48$). The overall mean of 3.50 ($SD = 0.46$), interpreted as "Always True of my Math Teacher," indicates that the respondents consistently perceived their mathematics teachers as providing a variety of engaging books and learning resources during instruction.

These findings suggest that mathematics teachers regularly incorporated diverse instructional materials to facilitate students' learning experiences. The high ratings imply that students recognized the consistent use of engaging books and various learning resources that supported classroom instruction, enhanced lesson delivery, and promoted active participation in mathematics learning. The slightly higher rating for engaging resources compared with engaging books further indicates that teachers utilized a wider range of instructional materials beyond traditional textbooks, reflecting efforts to address different learning preferences and instructional needs.

The findings are consistent with recent studies, which reported that the use of varied instructional resources enhances students' engagement, conceptual understanding, and motivation in mathematics learning (Arhin et al., 2023). Contemporary mathematics education emphasizes that combining printed materials with digital resources, visual aids, manipulatives, and interactive learning activities creates more meaningful learning experiences and supports the development of higher-order thinking skills. Recent literature also highlights that the availability of diverse instructional materials contributes to learner-centered classrooms by accommodating different learning styles and encouraging active participation in mathematical problem-solving (Umuhoza & Uworwabayeho, 2021).

The results stress the importance of sustaining the provision and effective utilization of diverse learning resources in mathematics instruction. Teachers should continue integrating engaging books with various instructional materials to enrich students' learning experiences and maintain high levels of classroom engagement. Likewise, school administrators should strengthen support for the acquisition and development of quality instructional resources that enhance mathematics teaching and promote improved student learning outcomes.

Table 3.*Significant relationship between variety of engaging books and resources*

ASSESSMENT	N	Kendall's τ_b	p-value	Decision	Interpretation
Variety in Engaging Books and Variety in Engaging Resources	80	0.023	.632	Fail to reject H_0	Not Significant

Table 3 presents the results of the relationship between the students' assessment of the variety of engaging books and variety of engaging learning resources in mathematics instruction using Kendall's tau-b correlation coefficient. The analysis yielded a Kendall's τ_b value of 0.023 with a corresponding p-value of .632, which is greater than the 0.05 level of significance. Hence, the study failed to reject the null hypothesis indicating that no significant relationship existed between the students' assessment of the variety of engaging books and the variety of engaging learning resources in mathematics instruction.

The finding suggests that the students' assessment of engaging books was independent of their assessment of engaging learning resources. Although both indicators were positively assessed by the respondents, students did not necessarily perceive the availability or variety of engaging books to be associated with the variety of other instructional resources used in mathematics classes. This implies that engaging books and other learning resources may have been provided or experienced as distinct components of instruction rather than as interconnected instructional supports.

This result differs from recent studies that have emphasized the complementary role of diverse instructional materials in promoting effective mathematics learning. Contemporary literature has shown that the combined use of engaging books, digital technologies, manipulatives, and other instructional resources creates richer learning environments that enhance students' engagement, conceptual understanding, and problem-solving skills (Lai et al., 2026; Pratiwi et al., 2025). Researchers have argued that integrating multiple instructional resources enables teachers to address diverse learning needs and provide more meaningful learning experiences (Celeste & Osias, 2024). However, the present finding suggests that, from the students' perspective, the perceived variety of engaging books did not

necessarily correspond with the perceived variety of other learning resources, indicating that these instructional components may have been utilized independently within the classroom.

The absence of a significant relationship highlights the need for mathematics teachers to intentionally integrate engaging books with other instructional resources to create a more cohesive and comprehensive learning environment. School administrators may also consider strengthening instructional resource planning by ensuring that printed and non-printed learning materials complement one another. Such efforts can promote a more integrated approach to mathematics instruction that maximizes the educational value of all available learning resources.

Table 4.

Significant difference in the assessment of the student-respondents on variety of engaging books and resources

ASSESSMENT	N	DF	TEST	TEST STATISTIC	P-VALUE	REMARKS
Variety in Engaging Books						
Age	80	3	Kruskal Wallis	0.53	.912	Accept Ho
Sex	80	---	Mann – Whitney	760.50	.747	Accept Ho
Section	80	---	Mann - Whitney	789.00	.863	Accept Ho
Variety in Engaging Resources						
Age	80	3	Kruskal Wallis	0.30	.959	Accept Ho
Sex	80	---	Mann – Whitney	735.00	.558	Accept Ho
Section	80	---	Mann – Whitney	794.50	.901	Accept Ho

Table 4 presents the results of the tests of significant differences in the students' assessment of the variety of engaging books and learning resources when grouped according to age, sex, and section. For the variety of engaging books, the Kruskal–Wallis H test revealed no significant difference according to age ($H = 0.53$, $p = .912$), while the Mann–Whitney U test likewise indicated no significant differences according to sex ($U = 760.50$, $p = .747$) and section ($U = 789.00$, $p = .863$). Similarly, for the variety of engaging resources, no significant differences were found according to age ($H = 0.30$, $p = .959$), sex ($U = 735.00$, $p = .558$), and section ($U = 794.50$, $p = .901$). Since all obtained p -values exceeded the 0.05 level of significance, the null hypothesis was accepted for all profile variables.

The findings indicate that the students' assessment of the variety of engaging books and learning resources was generally consistent regardless of their age, sex, or section. This suggests that the respondents shared similar perceptions of the instructional materials used in their mathematics classes. The absence of significant differences further implies that the provision and utilization of engaging books and learning resources were perceived uniformly across the different student groups, reflecting consistency in instructional practices and access to learning materials.

The findings are supported by recent studies reporting that when instructional resources are equitably provided and consistently integrated into classroom instruction, students tend to demonstrate comparable perceptions of their learning experiences regardless of demographic characteristics (Eden et al., 2024). Contemporary research has emphasized that effective mathematics instruction should ensure equitable access to quality learning resources, allowing all learners to benefit from engaging instructional materials irrespective of age, sex, or classroom assignment (Malicay et al., 2026; Radzi & Mahmud, 2025). Such consistency contributes to inclusive learning environments where instructional quality is experienced similarly by diverse groups of students.

From an educational perspective, the results suggest that mathematics teachers have been successful in providing engaging books and learning resources in a manner that is perceived equally by students across different demographic groups. School administrators should continue supporting equitable resource distribution and instructional practices to ensure that all students have similar opportunities to access quality mathematics learning materials. At the same time, teachers should sustain the use of diverse and engaging instructional resources that address the learning needs of all students while maintaining consistency in the quality of mathematics instruction.



Conclusion

Based on the findings of the study, the following conclusions were drawn:

1. The students perceived that their mathematics teachers consistently provided a variety of engaging books and learning resources, indicating that diverse instructional materials were regularly incorporated into mathematics instruction to support learning. This finding provides evidence supporting learner-centered mathematics instruction, where the purposeful integration of varied instructional resources enhances student engagement, promotes meaningful learning experiences, and informs instructional planning.
2. No significant relationship was found between the students' assessment of the variety of engaging books and the variety of engaging learning resources. This indicates that the respondents viewed these two aspects of instructional materials as distinct components of mathematics instruction. This provides valuable insights for teachers' continued professional development in designing balanced, resource-rich, and learner-centered mathematics lessons.
3. The students' assessment of the variety of engaging books and learning resources did not significantly differ when grouped according to age, sex, and section. This suggests that students shared similar perceptions of the instructional resources provided in their mathematics classes regardless of their demographic characteristics. This consistency across student groups indicates that the instructional resources were perceived equitably, reinforcing the importance of providing inclusive and accessible learning materials for all learners.

Recommendations

Teachers may continue utilizing a wide variety of engaging books and instructional resources while integrating these materials more deliberately to create cohesive and meaningful learning experiences that enhance students' conceptual understanding and engagement.

School administrators may strengthen support for the acquisition, development, and regular updating of mathematics instructional materials, including both printed and digital resources, to ensure that teachers have adequate resources to implement learner-centered instruction.

Education policymakers and curriculum planners may promote policies and programs that provide equitable access to quality mathematics learning resources across schools, ensuring that all students benefit from diverse and engaging instructional materials regardless of their classroom or school context.

Teacher education institutions may incorporate training on the effective selection, development, and integration of engaging instructional resources into mathematics teacher preparation and continuing professional development programs.

Future researchers may investigate other factors that influence students' perceptions of mathematics instructional resources, including instructional practices, classroom learning environments, technology integration, and academic achievement. Similar studies involving larger samples, different educational levels, and multiple schools may also be conducted to enhance the generalizability of the findings.

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