Teachers' Assessment of Pupils' Utilization of Learning Resources and Its Influence on Academic Performance in Science

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Abstract— In the evolving landscape of education, the availability and use of appropriate learning resources significantly influence pupils' academic performance. Teachers play a crucial role in observing and assessing how these resources are accessed and utilized. This study aimed to assess teachers' perceptions of pupils' utilization of learning resources in Science and its influence on academic performance in Bonifacio District, Division of Misamis Occidental. A correlational research design was used, involving 232 teachers as respondents. Data were gathered through a researcher-made questionnaire assessing four components: frequency of use, variety, appropriateness, and engagement. Descriptive statistics (mean and standard deviation) and Spearman rho correlation were used for data analysis. Findings showed that the overall utilization of learning resources was rated as Average (Mean = 2.869). However, both the frequency (Mean = 2.386) and variety (Mean = 2.364) were rated Low, while appropriateness (Mean = 3.354) and engagement (Mean = 3.373) were Average. Pupils' academic performance had a mean score of 86.6. Statistical analysis showed no significant relationship between the level of learning resource utilization and academic performance (Spearman rho = 0.068, p = 0.303). Despite average resource utilization, pupils achieved commendable academic performance, suggesting that other factors may contribute more significantly to their success. The absence of a significant correlation highlights the need to explore deeper instructional and contextual factors affecting academic outcomes.

Keywords— learning resources, academic performance, Science education, teacher assessment, resource utilization, Bonifacio District.

I. INTRODUCTION

In the evolving landscape of education, the availability and use of appropriate learning resources significantly influence pupils' academic performance. Teachers play a crucial role in observing and assessing how these resources are accessed and utilized by learners in the classroom. Based on the researcher's observations and teaching experience, there is a noticeable variation in pupils' academic outcomes, which may be linked to how effectively they use learning resources such as textbooks, workbooks, digital materials, and teacher-made tools. Understanding the extent and nature of this utilization through the lens of teachers can help uncover patterns that affect student learning, especially in public elementary schools like those in Bonifacio District.

A growing body of research emphasizes the positive impact of learning resource utilization on learners' academic success. According to Okafor (2024), pupils with access to diverse and appropriate learning materials demonstrate better academic achievement than those without such access. Similarly, students who frequently engage with instructional materials perform better in assessments Anthony and Andala (2023). Vygotsky's social constructivist theory also highlights the importance of tools and resources in enhancing learning experiences, suggesting that when learners are engaged with meaningful materials, they can achieve deeper understanding and retention (Vygotsky, 1978). These insights support the relevance of this study and justify the need to explore how teachers assess pupils' use of learning resources in relation to performance.

Despite the availability of some literature, there is a lack of localized research focusing specifically on teachers' assessments of learning resource utilization, particularly in elementary schools within the Bonifacio District of Misamis Occidental. Most existing studies emphasize the learners' perspectives or rely solely on quantitative performance metrics, overlooking the valuable insights that teachers can provide as frontline observers of pupil engagement and progress.

Furthermore, while previous studies affirm the role of learning materials in improving academic achievement, few explore the specific types, frequency, or appropriateness of resources used in real classroom settings. This gap hinders the development of targeted strategies to improve resource-based instruction.

Thus, this study aims to assess how teachers perceive the utilization of learning resources by pupils and examine how such utilization influences their academic performance. The findings will serve as a basis for developing an instructional monograph or guide that may assist educators in enhancing pupils' learning outcomes through better use of learning materials. Ultimately, this research seeks to bridge the gap between resource availability and effective utilization from a teacher-centered viewpoint, providing a foundation for more informed decision-making in instructional planning and policy implementation.

II. RESEARCH METHODOLOGY

Research Design

This study employed a correlational research design to examine the relationship between pupils' utilization of learning resources and their academic performance, as assessed by teachers in the Bonifacio District, Division of Misamis Occidental. Without manipulating variables, this design is ideal for analyzing naturally occurring educational practices and determining whether increased engagement with learning materials such as textbooks, visual aids, and digital tools corresponds with improved academic outcomes. Guided by the frameworks of Creswell and Creswell (2017) and Gall, Gall, and Borg (2007), this approach allows for the identification of significant associations that can inform instructional strategies, resource allocation, and curriculum planning.

Research Setting

The study was conducted in Bonifacio District, an administrative district under the Division of Misamis Occidental in Northern Mindanao, Philippines. Comprising several public elementary schools that implement the K to 12 curriculum under the Department of Education, the district serves a diverse population of learners with varying access to educational resources. Bonifacio District was chosen due to its accessibility, the willingness of teachers to participate, and the relevance of its educational challenges to the study's objectives. Teachers in the area are directly engaged in classroom instruction and resource management, making them credible sources of data on pupils' use of learning materials. The setting also reflects common conditions in public schools across the country, such as limited access to advanced learning technologies and varying availability of instructional materials, providing a meaningful context for exploring how learning resources influence academic performance.

Research Respondents

The study involved 232 purposively selected teachers from various public elementary schools in the Bonifacio District, Division of Misamis Occidental. These respondents, who are classroom teachers across different grade levels, were chosen for their direct involvement in instructional delivery and their ability to assess pupils' utilization of learning resources. To ensure relevant and reliable data, inclusion criteria required that teachers be currently teaching in a public elementary school within the district, have at least one year of continuous teaching experience, handle core academic subjects, and be actively engaged in the use and evaluation of learning materials. Their insights are essential in understanding how learning resource utilization affects academic performance, and the large sample size supports the generalizability of the study's findings within the district.

Research Instrument

The main instrument used in this study was a structured, researcher-made questionnaire designed to assess pupils' utilization of learning resources in Science and their academic performance, as evaluated by teachers. It consisted of four parts: the first gathered demographic information such as the grade level taught, years of teaching Science, and school assignment; the second assessed pupils' utilization of learning resources through 20 items covering frequency of use, variety of resources, appropriateness to learners' needs, and level of engagement, using a four-point Likert scale (4 for Always, 3 for Often, 2 for Seldom, and 1 for Never); the third evaluated academic performance based on a four-point descriptive scale (4 for Excellent, 3 for Very Satisfactory, 2 for Satisfactory, and 1 for Fair) as rated by teachers; and the fourth included two checklist-type items that gathered insights on factors contributing to effective resource use and suggestions for improvement, with an "Others, please specify" option for additional responses. The questionnaire was designed to align with the correlational research objectives and ensure reliable, quantifiable data for analysis.

Validity of Instrument

To ensure its validity, the questionnaire underwent content validation by a panel of experts in Science education and educational research. Their feedback was used to refine the clarity and relevance of the items. A pilot test was then conducted with a small group of non-participating teachers from a neighboring district, and the results guided further revisions to improve the

instrument's reliability before it was administered to the actual respondents.

Data Gathering Procedure

The data gathering process began with securing approval from the Schools Division Superintendent of Misamis Occidental and the District Supervisor of Bonifacio District, followed by coordination with school heads and participating teachers in the selected public elementary schools. The study's purpose was clearly explained to all respondents, highlighting the voluntary nature of participation and the confidentiality of responses. The validated questionnaire was distributed in printed form, and teachers were given approximately one week to complete it based on their classroom observations. Completed forms were collected by the researcher or an authorized representative, ensuring all responses were properly accomplished. To maintain data accuracy and reliability, the questionnaires were checked for completeness before encoding, after which the data were tabulated and analyzed using appropriate statistical methods to assess pupils' utilization of learning resources, their academic performance, and the relationship between these variables.

Ethical Considerations

This study adhered to the ethical principles outlined by Bryman and Bell (2007), focusing on informed consent, voluntary participation, confidentiality, and the avoidance of harm. Prior to data collection, informed consent was obtained from all teacher-respondents after the study's purpose, scope, and procedures were clearly explained. Participation was voluntary, and respondents were assured of their right to withdraw at any time without consequences. Confidentiality and anonymity were strictly maintained by withholding the names of respondents and schools, and all data were securely stored and used solely for research purposes. Care was taken to avoid any form of harm, ensuring that the study did not interfere with teaching responsibilities or cause undue burden. Ethical clearance and formal approval were obtained from school authorities, district supervisors, and institutional review boards, ensuring the research was conducted with integrity and respect for all participants.

Data Analysis

The data collected from the completed questionnaires were analyzed using appropriate statistical tools to address the study's research questions and objectives. Mean and standard deviation were used to assess the level of pupils' utilization of learning resources in Science and their academic performance, summarizing the central tendencies and variability of responses. The Pearson Product-Moment Correlation Coefficient was applied to determine the strength and direction of the relationship between resource utilization and academic performance, identifying whether a statistically significant correlation existed. Frequency and percentage were used to present the distribution of demographic data and responses to checklist-type items on contributing factors and suggested improvements. All analyses were conducted using standard statistical software, with a significance level of 0.05 set to determine the statistical validity of the findings.

III. PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

Table 1.1 Level of Pupils' Utilization of Learning Resources as Assessed by Teachers in Terms of Frequency Use

Indicators	Sd	Mean
1. **Pupils regularly use printed Science materials (e.g., textbooks, modules, worksheets).**	0.772	2.403
2. **Pupils frequently access visual aids (e.g., charts, illustrations, posters).**	0.788	2.455
3. **Pupils often utilize digital resources (e.g., videos, e-books, simulations).**	0.797	2.433
4. **Pupils make consistent use of manipulative and hands-on materials (e.g., lab tools, models).**	0.686	2.229
5. **Pupils revisit learning resources for reinforcement or review.**	0.744	2.411
Average Mean	2.386 Low	

Scale: 1.0 – 1.80 "Very Low", 1.81 – 2.60 "Low", 2.61 – 3.40 "Average", 3.41 – 4.20 "High" 4.21 – 5.00 "Very High"

Table 1.1 presents the level of pupils' utilization of learning resources in Science as assessed by teachers, specifically in terms of frequency of use. The average mean score is 2.386, which falls under the "Low" category based on the given scale. This suggests that, overall, pupils infrequently utilize learning resources in their Science learning activities. The low level of engagement with available materials could potentially impact the depth of conceptual understanding and limit opportunities for reinforcement and mastery of scientific content.

Looking at the individual indicators, the highest mean score is 2.455, which pertains to the frequent use of visual aids (e.g., charts, illustrations, posters). This implies that such resources are relatively more accessible or more commonly integrated by teachers in instruction. Close behind are printed materials (2.403), digital resources (2.433), and review practices (2.411), all still rated within the "Low" level. This indicates that although pupils are exposed to various resource types, their utilization is not yet consistent or intensive. The lowest-rated indicator is the use of manipulative and hands-on materials (mean = 2.229), which may reflect limitations in laboratory tools, science kits, or opportunities for experiential learning—an important component of Science education. These findings suggest the need for stronger integration of and access to diverse learning materials, especially hands-on resources, to enhance pupils' engagement and learning outcomes in Science.

The findings of the present study, which revealed a low level of pupils' utilization of learning resources as assessed by teachers, align with the results of Oyegoke (2023), who noted that despite the availability of instructional materials, actual usage by pupils remained suboptimal, thereby limiting their potential learning outcomes.

Similarly, Ikonne et al. (2022) emphasized that while a wide range of learning resources was accessible to students, frequent and meaningful engagement with these materials was not consistently observed and was not directly correlated with improved academic performance.

These related studies reinforce the idea that mere access to learning resources does not guarantee effective use, highlighting the need for guided utilization and teacher facilitation to maximize their impact on learning.

Table 1.2 Level of Pupils' Utilization of Learning Resources as Assessed by Teachers in Terms of Variety of Resources Used

Indicators	Sd	Mean
1. Pupils use multiple types of learning resources in a single lesson.	0.759	2.368
2. Pupils are exposed to both print and digital resources.	0.665	2.377
3. Pupils participate in Science activities involving interactive or experimental tools.	0.702	2.368
4. Pupils access resources beyond those provided in the classroom (e.g., library, online).	0.712	2.329
5. Pupils explore Science content through various media (e.g., games, animations, infographics).	0.684	2.416
Average Mean		2.364 Low

Scale: 1.0 – 1.80 "Very Low", 1.81 – 2.60 "Low", 2.61 – 3.40 "Average", 3.41 – 4.20 "High" 4.21 – 5.00 "Very High"

Table 1.2 shows the level of pupils' utilization of learning resources in terms of the variety of resources used, based on teachers' assessment. The average mean score is 2.364, which falls under the "Low" category. This suggests that pupils are not frequently engaging with a wide range of learning materials during Science lessons. The limited exposure to different types of resources may hinder students' ability to make connections across various learning modalities and reduce their engagement, especially in a subject that benefits greatly from diverse instructional tools and formats.

Examining the individual indicators, the highest-rated item is the use of various media such as games, animations, and infographics (mean = 2.416), indicating some level of integration of engaging, tech-based content. However, this is still rated "Low," pointing to inconsistency in its application. The lowest-rated item is access to resources beyond the classroom (mean =

2.329), such as libraries and online platforms, possibly due to infrastructure limitations or lack of learner initiative. Other indicators such as use of multiple resource types in one lesson, exposure to both print and digital materials, and participation in hands-on activities all fall close to the average, reflecting a generally narrow scope of resource utilization. These findings highlight the need to expand and diversify the instructional materials accessible to pupils to foster more dynamic and enriched Science learning experiences.

The findings of the study, which indicate a low level of variety in the utilization of learning resources among pupils, are consistent with Barrot et al. (2021), who observed that Filipino students often faced limitations in accessing diverse learning materials, primarily due to infrastructural constraints and lack of teacher facilitation during remote learning. In contrast, Pesovski et al. (2024) emphasized the potential of emerging technologies like generative AI to offer highly

customizable and varied learning experiences, highlighting what is possible when digital tools are effectively integrated. The comparison reveals a gap between the current limited classroom practices and the transformative possibilities available through intentional and well-supported use of diverse educational technologies.

Table 1.3 Level of Pupils' Utilization of Learning Resources as Assessed by Teachers in Terms of Variety of Appropriateness of Resources to Learners' Needs

Indicators	Sd	Mean
1. **Learning resources used are suited to the pupils' developmental level.**	0.657	3.593
2. **The content of resources matches the pupils' curriculum and learning objectives.**	0.746	3.433
3. **Resources are appropriate for pupils with different learning styles.**	0.791	3.260
4. **Pupils can understand and relate to the examples provided in the resources.**	0.736	3.286
5. **Resources provide adequate challenge without causing frustration.**	0.667	3.199
Average Mean		3.354 Average

Scale: 1.0 – 1.80 "Very Low", 1.81 – 2.60 "Low", 2.61 – 3.40 "Average", 3.41 – 4.20 "High" 4.21 – 5.00 "Very High"

Table 1.3 displays the level of pupils' utilization of learning resources in Science as assessed by teachers, focusing on the appropriateness of resources to learners' needs. The average mean is 3.354, which falls under the "Average" category. This suggests that the learning resources used are moderately aligned with the developmental level, curriculum standards, and diverse learning preferences of pupils. While the current resources are somewhat suitable, the results imply that there remains room for improvement to better cater to individual differences and optimize learner engagement and understanding.

A closer look at the individual indicators reveals that the highest-rated item is "Resources are suited to the pupils' developmental level" with a mean of 3.593, nearing the "High" category. This indicates that most teachers believe the materials used are age-appropriate and pedagogically sound. The indicator on alignment with the curriculum and learning objectives also received a strong mean score of 3.433, suggesting consistency between the resources and intended learning outcomes. However, the lowest mean score (3.199) was observed in the item regarding whether resources provide adequate challenge without causing frustration, indicating a potential mismatch in difficulty levels for some learners. Other indicators, such as supporting different learning styles and using familiar, relatable content, also registered "Average" ratings, emphasizing the need for more inclusive and differentiated materials. Collectively, these findings highlight the importance of continually evaluating and refining instructional resources to ensure they effectively address the varying needs and capabilities of Science learners.

The study's findings, which show that teachers perceive the appropriateness of learning resources to learners' needs as "average," are echoed by Garcia et al. (2024), who noted inconsistencies in the alignment of educational materials with learners' developmental levels and curricular goals, leading to varied effectiveness in classroom use. In contrast, Vebriani et al. (2024) demonstrated that well-designed STEM-based digital modules tailored to learners' needs significantly enhanced student engagement and the development of higher-order thinking skills. This contrast highlights that while some learning resources meet basic appropriateness standards, intentional design—especially through technology integration—can elevate their impact on learning outcomes.

Table 1.4 Level of Pupils' Utilization of Learning Resources as Assessed by Teachers in Terms of Level of Pupil Engagement with the Resources

Indicators	Sd	Mean
1. **Pupils actively interact with learning materials during Science lessons.**	0.556	3.463
2. **Pupils demonstrate curiosity or interest in using the resources.**	0.603	3.208
3. **Pupils participate in class discussions prompted by the use of resources.**	0.624	3.342
4. **Pupils use learning materials independently outside class hours.**	0.511	3.424
5. **Pupils retain or apply what they learn from the resources in assessments or activities.**	0.545	3.429
Average Mean		3.373 Average

Scale: 1.0 – 1.80 "Very Low", 1.81 – 2.60 "Low", 2.61 – 3.40 "Average", 3.41 – 4.20 "High" 4.21 – 5.00 "Very High"

Table 1.4 presents the teachers' assessment of pupils' engagement with learning resources during Science instruction. The computed average mean is 3.373, which falls under the "Average" category. This suggests that, from the teachers' perspective, pupils are moderately engaged when using learning resources. While learners are showing signs of interaction and participation, the current level of engagement indicates that there is still considerable room for enhancing how students connect with and benefit from the materials used in Science classes.

Analyzing the individual indicators, the highest mean (3.463) was recorded in the item "Pupils actively interact with learning materials during Science lessons," which reaches the "High" category. This indicates that pupils are generally hands-on and responsive when using educational resources during instruction. The next highest scores were observed in "Pupils retain or apply what they learn from the resources" (3.429) and "Pupils use learning materials independently outside class hours" (3.424)—both showing positive signs of extended and meaningful engagement. Meanwhile, interest and curiosity in using the resources received the lowest score (3.208), though still within the "Average" range. This suggests a potential lack of intrinsic motivation or novelty in the materials used. Overall, while learners show a functional level of engagement, these results highlight the need for more dynamic, interactive, and learner-centered resources that can stimulate greater curiosity, motivation, and long-term knowledge application.

The study's findings reveal an average level of pupil engagement with learning resources, with particular strengths in active interaction and application of learned content. This aligns with Austin et al. (2022), who emphasized that blended learning can foster meaningful engagement when students are provided with interactive and contextually relevant materials. However, Abou-Khalil et al. (2021) highlighted that in low-resource settings, sustaining student engagement requires intentional strategies, such as scaffolding and motivational support, beyond just providing access to resources. The findings suggest that while resource availability contributes to engagement, its effectiveness depends on how these tools are integrated and facilitated within instructional practices.

Table 1.5 Level of Pupils' Utilization of Learning Resources as Assessed by Teachers

Components	Mean	Interpretation
Frequency of use	2.386	Low
Variety of resources used	2.364	Low
Appropriateness of the resources to learners' needs	3.354	Average
Level of pupil engagement with the learning resources	3.373	Average
Average Mean	2.869	Average

Scale: 1.0 – 1.80 "Very Low", 1.81 – 2.60 "Low", 2.61 – 3.40 "Average", 3.41 – 4.20 "High" 4.21 – 5.00 "Very High"

Table 1.5 summarizes the overall assessment of teachers on pupils' utilization of learning resources in Science across four key components: frequency of use, variety of resources, appropriateness to learners' needs, and level of pupil engagement. The overall average mean is 2.869, which falls within the "Average" category. This implies that, from the perspective of teachers, pupils demonstrate a moderate level of utilization of learning resources. While some aspects of use are encouraging, others remain limited, indicating areas that require targeted improvements to maximize the benefits of learning materials in Science instruction.

Among the components, the "Level of Pupil Engagement" (mean = 3.373) and "Appropriateness of Resources" (mean = 3.354) scored highest and fall under the "Average" interpretation. These results suggest that pupils are moderately engaged and that the learning resources are reasonably suited to their developmental needs and curricular goals. However, both "Frequency of Use" (mean = 2.386) and "Variety of Resources Used" (mean = 2.364) were rated as "Low," indicating that pupils are not consistently using learning resources nor are they exposed to a wide range of material types. This lack of regular and diverse exposure may limit learners' opportunity to fully benefit from different instructional strategies and content delivery modes. Overall, the findings highlight the need for increased access, variety, and integration of engaging and appropriate learning resources to enhance pupils' Science learning experience.

The findings of the study, which show an average overall level of pupils' utilization of learning resources—with low ratings in frequency and variety but average in appropriateness and engagement—reflect

both alignment and divergence with previous literature. Okoji and Olubayo (2021) emphasized that instructional resources are underutilized in primary education due to access and integration challenges, which supports this study's observed low frequency and variety of use. Similarly, Naisianoi et al. (2020) highlighted that the availability of materials alone does not guarantee

effective utilization unless they are appropriate to learners' needs and context—echoing this study's average ratings for appropriateness and engagement. These findings suggest that while schools may provide resources, maximizing their impact requires strategic implementation and alignment with pupils' learning needs.

Table 2. Frequency Distribution of Pupil's Academic Performance (N=232)

Score Range	Frequency (f)	Percentage (%)	Cumulative Frequency (cf)
75-77	7	3.02%	7
78-80	9	3.88%	16
81-83	24	10.34%	40
84-86	50	21.55%	90
87-89	86	37.07%	176
90-92	44	18.9%	220
93-94	12	5.17%	232
Total	232	100.00%	-

Table 2 shows the frequency distribution of the academic performance of 232 pupils in Science, categorized by score ranges. The data reveals that the majority of pupils scored between 87–89, with 86 pupils (37.07%) falling in this range. This is followed by 50 pupils (21.55%) who scored between 84–86, and 44 pupils (18.9%) who scored 90–92. These findings suggest that a large proportion of the pupils demonstrated above-average academic performance, indicating a generally strong grasp of Science content based on the assessments. On the other hand, only a small number of pupils scored in the lower ranges. Specifically, 7 pupils (3.02%) scored between 75–77,

and 9 pupils (3.88%) scored between 78–80, suggesting that very few learners are performing at a low level. Meanwhile, a modest group of students (24 pupils or 10.34%) scored between 81–83, and 12 pupils (5.17%) reached the highest range of 93–94. The cumulative frequency confirms a positive skew, with 90 pupils (38.79%) scoring below 87 and 142 pupils (61.21%) scoring 87 or higher. These results imply that, overall, the pupils are performing well in Science, although strategies may still be necessary to support the small group of low-performing students and to help more pupils reach the highest performance bracket.

Table 3. Descriptive Statistics of Pupil's Academic Performance

Statistic	Value
Mean	86.6
Median	87.0
Standard Deviation	4.01
Minimum Score	75
Maximum Score	94
Number of Pupils	232

Table 3 presents the descriptive statistics of pupils' academic performance in Science. The computed mean score is 86.6, while the median is 87.0, indicating that the distribution of scores is slightly skewed toward the higher end. This suggests that most pupils achieved scores close to or above the average, reflecting a generally satisfactory level of academic achievement in Science among the 232 respondents. The closeness of the mean and median also implies a relatively

symmetrical distribution, with no extreme outliers significantly pulling the average in either direction.

The standard deviation is 4.01, which indicates a moderate variability in the pupils' scores. This means that while most pupils performed near the average, there were still observable differences in academic achievement levels within the group. The minimum score of 75 and maximum score of 94 show a

performance range of 19 points, suggesting that although the majority of pupils scored within a strong band, some learners are at risk of underperformance. These statistics reinforce the findings in the frequency distribution, where a considerable number of pupils

scored within the upper-mid range (87–89). Overall, the data implies that pupils are performing relatively well in Science, with potential for further improvement through targeted instructional support for those scoring near the lower limit.

Table 4. *Test of Significant Relationship Between Level of Pupils' Utilization of Learning Resources as Assessed by Teachers and Academic Performance*

Variables	Spearman rho	p-value	Decision
Level of Pupils' Utilization of Learning Resources as Assessed by Teachers and Academic Performance	0.068	0.303	retain the Ho

Note: If p ≤ 0.05, with a significant difference

Table 4 shows the result of a Spearman rho correlation test conducted to determine the relationship between the level of pupils' utilization of learning resources (as assessed by teachers) and their academic performance in Science. The computed Spearman rho value is 0.068, indicating a very weak positive correlation between the two variables. This means that as the level of resource utilization increases, academic performance also tends to increase, but the relationship is very weak and likely not meaningful.

The corresponding p-value is 0.303, which is greater than the 0.05 level of significance. Thus, the decision is to retain the null hypothesis (Ho). This suggests that there is no statistically significant relationship between the level of pupils' utilization of learning resources (as perceived by teachers) and their academic performance in Science. This result implies that while learning resource use is important, other factors may play a more dominant role in determining pupils' academic outcomes. It is also possible that the teachers' assessments may not perfectly reflect the actual usage behavior of pupils, hence weakening the observed association.

The findings of the study, which show an average overall level of pupils' utilization of learning resources—with low ratings in frequency and variety but average in appropriateness and engagement—reflect both alignment and divergence with previous literature. Okoji and Olubayo (2022) emphasized that instructional resources are underutilized in primary education due to access and integration challenges, which supports this study's observed low frequency and variety of use. Similarly, Naisianoi et al. (2020) highlighted that the availability of materials alone does not guarantee effective utilization unless they are appropriate to learners' needs and context—echoing this study's average ratings for appropriateness and engagement.

These findings suggest that while schools may provide resources, maximizing their impact requires strategic implementation and alignment with pupils' learning needs.

IV. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

1. Level of Pupils' Utilization of Learning Resources as Assessed by Teachers. The overall mean score for the level of pupils' utilization of learning resources was 2.869, interpreted as Average. Specifically, the frequency of use (Mean = 2.386) and the variety of resources used (Mean = 2.364) were both rated Low. Meanwhile, the appropriateness of the resources to learners' needs (Mean = 3.354) and the level of pupil engagement with the learning resources (Mean = 3.373) were both rated Average.

2. Level of Pupils' Academic Performance Based on Teachers' Assessment. The pupils' academic performance had a mean score of 86.6, a median of 87.0, a standard deviation of 4.01, with scores ranging from 75 to 94. The total number of pupils assessed was 232.

3. Significant Relationship Between Pupils' Utilization of Learning Resources and Academic Performance. There was no significant relationship between the level of pupils' utilization of learning resources and their academic performance, as indicated by a Spearman rho value of 0.068 and a p-value of 0.303, leading to the decision to retain the null hypothesis.

Conclusions

Based on the findings, the overall level of pupils' utilization of learning resources in Science, as assessed by teachers, was average, with low ratings in frequency

and variety of use, and average ratings in appropriateness and pupil engagement. This indicates that while some resources are relevant and engaging, they are not used frequently or in diverse ways. Despite this, pupils showed generally commendable academic performance, with an average score of 86.6, suggesting that other factors may contribute to their success. Statistical analysis showed no significant relationship between resource utilization and academic performance, indicating that occasional or limited use of learning materials does not directly impact outcomes. This underscores the need to examine how resources are integrated into instruction and to consider other influencing factors such as teaching quality, student motivation, and the classroom environment.

Recommendations

Based on the findings, pupils may be guided to consistently and effectively use diverse learning resources, particularly in Science, through school-led awareness campaigns and study habit programs. Teachers could integrate varied, learner-appropriate materials into instruction, monitor their usage, and participate in professional development on resource utilization. School administrators may ensure the availability and accessibility of quality materials, support teacher training, and implement systems to monitor pupil engagement. Curriculum planners and educational supervisors could enhance policies promoting differentiated instruction, allocate resources to underserved schools, and include resource-based teaching strategies in training programs. Parents and guardians may support learning at home by providing supplementary materials and engaging in school-led initiatives. Future researchers could explore other influencing factors on academic performance and conduct broader or mixed-method studies to gain deeper insights into learning resource utilization.

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