
Digitized Instructional Materials and Learning Outcomes

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ABSTRACT: The integration of digitized instructional materials has transformed the teaching and learning process, enhanced pupils' engagement and comprehension. This study aimed to assess the extent of pupils' utilization of downloaded videos, online game-based learning, and PowerPoint presentations, evaluate their learning outcomes, examine the relationship between digitized instructional materials and learning outcomes, and determine which material best predicts pupils' performance. A descriptive-correlational and causal research designs were used, involving 247 Grade 6 pupils from selected elementary schools in West 1 District, Division of Cagayan de Oro City, who were selected through simple random sampling. Data were gathered using a modified survey questionnaire with a Five-Point Likert Scale. Mean, Standard Deviation, Pearson Product Moment Correlation Coefficient, and Multiple Linear Regression were the statistical tools used. Results showed that Downloaded Videos were Very Highly Utilized, followed by PowerPoint presentation and Online game-based learning are Highly Utilized. The pupils learning outcome were rated as Very satisfactorily. A significant correlation was found between digitized instructional materials and pupils learning outcome and online game-based learning emerged as the strongest predictor. Digitized instructional materials significantly improve engagement, comprehension, and retention. Thus, teachers may strategically integrate digital tools, particularly game-based learning and multimedia content, to optimize pupils' learning experiences.

KEYWORDS: digitized instructional materials, learning outcomes

I. INTRODUCTION

Education is necessary for everybody. The most crucial aspect in school is teaching and learning. To teach their students and encourage active learning, the teachers use a variety of methods and resources. As time goes on, new approaches and strategies are introduced into the classroom, and educators employed a variety of tools to facilitate learning. Digitized instructional materials arouse the interest of learners and help the teachers to explain the concepts easily.

The influence of digitized instructional materials on pupils' academic performance is considerable, affecting various components of their learning outcomes and success. Therefore, digitized instructional materials improved understanding and comprehension. High-quality instructional resources enhance pupils' grasp of academic content by offering digital materials that lead to better learning results. Likewise, they boost engagement and motivation. Interactive and captivating digitized instructional materials draw pupils' interest and motivation, which result in higher involvement in learning activities and enhanced academic performance. Digitized instructional materials promote information retention and recall. They support the retention and recall of knowledge through repetition, visualization, and multisensory experiences, leading to improved memory retention and greater academic success (Bacia, 2024).

According to Hadiyanto et al. (2021), the potentials to communicate, learn, collaborate, incorporate, participate, use, produce, and share information are created by the internet. These activities have increased the emphasis on engaging pupils to communicate, connect, explore, use technology and supported applications, accomplish online presentations and intensify the use of current skills rather than depending solely on direct educational techniques. Reports of the benefits of digitized instructional materials have been stated in the preceding literature, and educators are encouraged to select and utilize the appropriate delivery methods to create additional opportunities for pupils to apply each part of the compiled modern employable and teachable traits.

In addition, Rice et al. (2021) mentioned that digitized instructional materials offer enhanced opportunities for individual engagement. They include a wider range of adaptive and personalized features, and they can be more accessible to learners. Digitized instructional materials also feature a higher frequency of integrated assessment tools. Due to the significant rise in online

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teaching, particularly remote learning utilizing digital materials, there has also been a rise in the use of instructional materials designed for online display or converted for digital use.

Likewise, technologies were made to give pupils the fundamental information and abilities they need to thrive in settings where computers and the internet are necessary. It assisted the pupils in learning about the world of technology and honing their talents in a variety of applications. Pupils may take control of their education, foster critical thinking, and collaborate more effectively with the help of digital learning (Ravishankar et al. 2024)

Also, Haleem et al. (2022) mentioned that digital technologies have shown a powerful impact on the education system. Technological improvements in education have made life easier for pupils. Instead of using pen and paper, learners nowadays use various software and tools to create presentations and projects. When compared to a stack of notebooks, an iPad is relatively light. When opposed to a weighty book, surfing an E-book is easier. The advent of digitized instructional materials enabled pupils to be exposed to various tools and Internet-based resources. In this way, digitized instructional materials can be utilized in learning. It has been proven that it increases academic excellence and the quality of learning instructions by teachers. It also binds with teaching to promote the pupils' learning outcomes. Added to these, the pupils' engagement and performance is vital to the success of utilization of so-called digital learning tools.

Further, educational technology has the potential to level the playing field, offering learning opportunities to pupils no matter where they are located or socio-economic background. Downloaded Video, Online Game-Based Learning, and PowerPoint presentation makes learning more accessible to a wider audience. The benefits of digital learning can assist educators in enhancing pupils' learning, reducing the impact of learning loss, and fostering opportunities for social and emotional connection. All in all, a massive benefit of technology in the classroom is a success in the pupils' learning outcomes. Digitized instructional materials can be a transformational learning tool for students if it is implemented into the classroom correctly. It has also had some negative consequences. Some negative effects of technology include the need for limits and boundaries, especially for children. Setting time limits on device usage is a way to mitigate these effects (Muhammad et al. 2023).

This study aimed to explore the effects of digitized instructional materials on the pupils' learning outcomes. Examining how digitized instructional materials enhance pupils' engagement, facilitate understanding, and improve learning outcomes. It aims to identify best practices in the use of digitized instructional materials and their ultimate influence on learning outcomes. This study anchored on the Digitized Instructional Materials and Learning Outcomes. The Cognitive Theory of Multimedia Learning (CTML) is a conceptual framework that examines how people process and understand information delivered through various media formats. Research shows that it has important consequences for creating and assessing instructional videos. The fundamental premise of this theory is that when learners encounter a multimedia learning experience, they participate in three essential cognitive processes (Alshaikh et al. 2024).

Likewise, Connectivism Learning Theory is an innovative learning theory which proposes that, in order to learn effectively, pupils should embrace the integration of thoughts, theories, and information that one experiences when using modern day technology. It underscores the pivotal role of digitized instructional materials in modern education, recognizing that our era of connectivity offers limitless avenues for shaping our learning journeys. Collaboration and open dialogue allow learners to benefit from diverse perspectives, which can enhance decision-making, problem solving, and the comprehension of complex concepts. (Alam, 2023).

Recognizing this, the theory of connectivism has emerged, providing updated methodologies suited for our tech-driven age. For those in the teaching profession, or those aspiring to join, embracing connectivism could be the key to nurturing a conducive, modern learning environment. A defining characteristic of connectivism is its deep-rooted alliance with technology. To foster a connectivist environment, educators must effectively integrate digital learning opportunities.

Furthermore, according to the new Bloom's Taxonomy, the foundation for the six cognitive processes consists of knowledge which are remembering, understanding, applying, analyzing, evaluating, and creating. The creators of the updated framework also recognized various kinds of knowledge involved in cognitive processes which are the factual knowledge, conceptual knowledge, procedural knowledge, and metacognitive knowledge. The lower-order thinking skills was positioned at the bottom of the pyramid, while the higher-order skills are located at the top.

The integration of technology into the framework results in what is referred to as Bloom's Digital Taxonomy. A commonly created visual by school districts is the pyramid that showcases the digital materials available and promoted within the district, corresponding to the relevant category. This visual may differ based on district resources, but developing something like this is very useful for teachers to link technology with the various levels of Bloom's Taxonomy. In addition to Bloom's, educators have access to numerous frameworks and tools to assist them in designing technology-enhanced learning experiences (Ray, 2021).

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II. METHODOLOGY

This study utilized descriptive correlational and causal designs with content analysis, which established the relationship between different variables. Devi et al. (2023) noted that a descriptive correlational design is suitable for identifying the extent of the relationship between variables, while a causal design is employed to determine whether changes in one variable result in changes in another.

It was appropriate for its objective to assess the extent of pupils' utilization of digitized instructional materials, evaluate their learning outcomes, examine the relationship between digitized instructional materials and pupils' learning outcomes, and determine which material best predict pupils' performance of West 1 District Elementary Schools, Division of Cagayan de Oro City. The data was gathered, analyzed, and interpreted the assessment of result and was served as bases of inference on the relationship between the pupils' learning outcomes and the digitized instructional materials where research was conducted. The method involves description, recording, analysis and interpretation of prevailing conditions. The investigation on the respondents' learning outcomes and their digitized method served as the focus of the study.

In problems 1 and 2, Mean and Standard Deviation was utilized. In problem 3, Pearson Product Moment Correlation Coefficient of Pearson r was utilized to test the connection between digitized instructional materials and the pupils' learning outcomes. In problem 4, Multiple Linear Regression was employed to assess the relationship between the three independent variables and one dependent variable.

III. RESULTS AND DISCUSSION

Problem 1. What is the pupils' extent in utilizing digitized instructional materials based on:

- 1.1 downloaded video;
- 1.2 online game-based learning; and
- 1.3 powerpoint presentation?

Table 1 presents the overall utilization of digitized instructional materials. It has an overall Mean of 4.20 with SD= 0.54, described as Strongly Agree and interpreted as Very Highly Utilized. The findings indicated that pupils place a high importance on digital instructional resources as useful learning aids. This shows that learners perceived these resources as helpful for boosting their comprehension, involvement, and overall educational experience. These results underscore the increasing significance of technology-based education, in which digital resources like PowerPoint slides, educational videos, and interactive learning platforms are essential in enhancing lesson presentation, knowledge retention, and pupils' engagement.

Table 1.

Overall Utilization of Digitized Instructional Materials

Variables	Mean	SD	Description	Interpretation
Downloaded Videos	4.22	0.53	Strongly Agree	Very Highly Utilized
Online game-based learning	4.18	0.54	Agree	Highly Utilized
Powerpoint presentation	4.19	0.54	Agree	Highly Utilized
Overall Mean	4.20	0.54	Strongly Agree	Very Highly Utilized

Note: 4.20-5.00 Very Highly Utilized 3.40-4.19 Highly Utilized 2.60-3.39 Utilized
1.80-2.59 Fairly Utilized 1.00-1.79 Rarely Utilized

Moreira et al. (2023) stated that digitized instructional materials are now a prominent component of the digital transformation occurring in schools. Traditional paper textbooks are increasingly substituted by various digital instructional materials. It enables the pupils to engage in diverse learning activities such as seeking out and critically evaluating information online, collaborating on projects with fellow pupils, and producing digital content in audiovisual and multimedia formats.

Additionally, Wang et al. (2024) said that technology plays a crucial role in facilitating the transformation and enhancement of education, while the current circumstances serve as a significant motivation for integrating new technologies into the educational framework and advancing the evolution of education. Innovative technologies address the specific requirements of pupils, improved their engagement and comprehension. Interactive educational experiences promote teamwork and a more flexible learning environment.

As shown in the presented data, downloaded videos has the highest Mean of 4.22 with SD= 0.53, described as Strongly Agree and interpreted as Very Highly Utilized. This indicates that downloaded videos are the most impactful and favored type of digital instructional content among pupils. It also suggests that pupils largely concur that videos aid in clarifying difficult lessons,

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offer visual and auditory learning experiences, and enable flexible, individual learning. Feedback has been consistently positive, underscoring the notion that incorporating educational videos into teaching significantly enhances pupils' learning experiences and overall academic success.

Significantly, Dela Cruz et al. (2023) added that visuals can enhance comprehension and facilitate the learning of challenging concepts that are hard to convey through words. Watching downloaded videos can boost engagement by sparking pupils' interest in the teachers' discussions. Visuals can enhance discussions among teachers and act as a central point for pupils' involvement. It can help clarify intricate ideas and make them easier for pupils to understand.

Also, Fernando et al. (2023) said that teachers utilized video presentations that they have downloaded to enhance comprehension of concepts, assist pupils in visualizing content, improve retention of information, and boost motivation for learning. Video presentations show that the learning experience can be engaging, enjoyable, and beneficial. Videos can captivate pupils and encourage active participation, resulting in a more effective educational experience. Video presentations can accommodate various learning needs by delivering a visual depiction of content that appeals to different learning styles.

On the other hand, online game-based learning has the lowest Mean of 4.18 with SD= 0.54, described as Agree and interpreted as Highly Utilized. This indicates that despite online game-based learning remains highly regarded, it is viewed as somewhat less influential when compared to other digital instructional resources such as downloaded videos. The response indicated that although numerous pupils gain advantages from game-based learning, its efficacy may be influenced by elements like game design, topic, and personal learning styles. However, to optimize their effectiveness, teachers must make certain that games are thoughtfully designed, connected to learning goals, and incorporated with other teaching strategies like discussions and evaluations.

Consequently, according to Banihashem et al. (2023) that learning analytics are crucial for maximizing the advantages of online game-based learning by examining various data sources, approaches, and collaborators involved in the process. Examining information from online game-based education platforms to uncover trends, patterns, and opportunities for enhancement. Applying learning analytics to customize the educational experience, adapting it to meet the unique requirements and skills of each pupil.

Additionally, My et al. (2024) stated that virtual settings for online game-based learning can be supported by tools like Adobe Flash, Kahoot, and Quizzes. These resources can enhance pupils' involvement and enthusiasm by offering an engaging and immersive educational experience. Online game-based learning platforms can be customized to address the unique needs of each pupils, facilitating a personalized educational journey. Such tools can be utilized in various environments, including classrooms, online courses, and self-guided learning spaces.

To sum it up, incorporating Digitized Instructional Materials in education is crucial to utilize adaptive learning methods that cater to the individual needs of the pupils, customizing the content based on each child's progress and requirements. Downloaded videos, which effectively simplify complex topics through visual and audio elements can also be enhanced with interactive components such as embedded quizzes, reflection prompts, and facilitated discussions to deepen the learning experience and foster enthusiasm for education. Online game-based learning might be somewhat less engaging, yet it can still offer value through carefully structured game mechanics, alignment with subject matter, and differentiated instruction, taking into account diverse learning styles.

The inclusion of visual learning aids, collaborative activities, and technology-driven assessments will contribute to a more dynamic and comprehensive educational atmosphere. As digital transformation reshapes traditional teaching approaches, the strategic application of various digitized instructional materials will act as a catalyst for active learning, knowledge retention, and overall pupils' success.

Problem 2. What is the pupils' level of learning outcomes?

Table 2 provides the analysis of pupils learning outcomes that revealed generally strong results. The Mean score was 85.47%, with SD= 4.17%, meaning that most pupils performed at a Very Satisfactory level. A vast majority 95% of the pupils scored between 80% and 100%, while no one scored below 74%. This pattern suggested that pupils grasped the material well, possibly due to effective teaching methods, clear assessment criteria, and active pupils' engagement.

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Table 2.

Pupils' Learning Outcomes

Grading Scale	Frequency	Percentage	Mean & SD	Interpretation
90%-100%	51	21	85.47 (4.17)	Very Satisfactory
85%-89%	86	35		
80%-84%	96	39		
75%-79%	14	5		
74% and below	0	0		
Total	247	100		

Note: 90% - 100%: Outstanding 85%-89%: Very Satisfactory 80%-84% Satisfactory
75%-79% Fairly Satisfactory 74% & below Did not Meet Expectations

Since the standard deviation was relatively low, pupils learning outcomes appeared to be consistent, with most scores clustering around the mean. This lack of extreme variation could have indicated that the teaching approach and assessment methods supported a majority of learners in achieving similar levels of success. However, the fact that no pupils scored below 74% indicates that pupils had achieved very satisfactory learning outcomes, demonstrating a strong grasp of the subject matter. This outcome suggested that the instructional methods, learning materials, and assessment strategies were effective in facilitating student understanding.

According to Winget et al. (2022), well-designed assessments aligned with learning objectives contribute to higher pupil achievement by providing clear expectations and structured opportunities for mastery. The consistent performance across the cohort implied that pupils were well-prepared and had successfully met the academic standards set for them. This result underscored the effectiveness of the teaching approach in ensuring that all pupils reached a proficient level of learning with minimal struggles.

Additionally, Yaseen et al. (2025) stated that understanding such distributions is crucial for educators to identify areas where instructional strategies may need adjustment to support all learners effectively. Recognizing that a small percentage of pupils may need additional academic support allows for targeted interventions, ensuring that all pupils have the opportunity to achieve proficiency. These results indicated that the instructional strategies used in the course were largely effective in supporting pupils' success. However, to ensure continuous academic improvement, it would have been valuable to explore whether higher-achieving pupils were sufficiently challenged and whether the grading system fairly reflected actual performance level. Regular assessment and improvement of educational programs can uphold academic standards and encourage a culture of excellence.

Problem 3. Is there a significant relationship between digitized instructional materials and the pupils' learning outcomes?

Table 3.

Test of Correlation Between Utilization of Digitized Materials and Learning Outcomes

Variables	r-value	p-value	Level of Correlation	Decision	Interpretation
Downloaded Videos	0.325	0.003	Low Positive Correlation	Reject Ho	Significant
Online game-based learning	0.512	0.001	Moderate Positive Correlation	Reject Ho	Significant
PowerPoint presentation	0.313	0.002	Low Positive Correlation	Reject Ho	Significant

Note: 0.91 - 1.00 Very High Positive Correlation 0.71 – 0.90 High Positive Correlation
0.51 – 0.70 Moderate Positive Correlation 0.31 – 0.50 Low Positive Correlation
0.00 – 0.30 Negligible Positive Correlation *Significant when computed p-value <0.05*

Table 3 examined the correlation between the utilization of digitized learning materials and pupils' learning outcomes, focusing on three key variables: downloaded videos, online game-based learning, and PowerPoint presentations. In this study, results revealed that downloaded videos showed a low positive correlation towards pupils learning outcomes ($r = 0.325$, $p = 0.003$) this indicated that while videos contributed to pupils learning outcome, their impact was relatively limited. This finding suggested that while videos served as valuable supplementary learning resources, their effectiveness depended on how they were integrated into instruction emphasizing the importance of careful and purposeful utilization of video materials. Teachers ought to think about ways to incorporate videos into their teaching to fully leverage their advantages and enhance pupils' learning.

According to Khalid et al. (2023), passive learning through videos may not be as effective as active engagement strategies,

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such as interactive discussions or guided note-taking. Passive learning might not encourage the same depth of comprehension and memory retention as active participation methods. Despite this result, downloaded videos remained a significant factor in learning outcomes, reinforcing their role in reinforcing concepts and providing visual explanations that support comprehension.

Also, the effect of lecture videos on pupils' learning outcomes found that while pupils appreciated the flexibility of videos, there was no significant improvement in learning outcomes compared to traditional methods. Videos can be more impactful when used alongside other teaching methods, including active learning, discussions, or assessments. Therefore, while downloaded videos served as valuable supplementary resources, their effectiveness depends on how they are integrated into instruction (Robertson et al. 2020).

However, online game-based learning showed a moderate positive correlation towards pupils learning outcomes ($r=0.512$, $p=0.001$). This result suggested that pupils who engaged in online game-based learning activities demonstrated higher levels of pupils learning outcomes. Digital games can be developed to accommodate various learning styles and requirements, offering a customized educational experience. Using online games for educational purposes can enhance involvement and motivation, resulting in better learning results.

This conclusion aligns with the assertion made by Plass et al. (2022) which highlighted that the interactive features of educational games probably boost motivation, critical thinking, and problem-solving abilities, thus rendering learning more captivating and effective. The importance of this finding underscores the value of integrating game-based approaches in instructional design, especially for subjects that necessitate active involvement and the reinforcement of concepts. Integrating game-oriented strategies into instructional design can be beneficial, particularly for topics that demand active engagement. Games can strengthen concepts and encourage a more profound comprehension.

Diaz et al. (2024) also stated that online game-based learning positively impact pupils' engagement and learning outcomes. Online game-based learning is becoming increasingly popular due to its ability to improve educational outcomes for children. It influences a variety of developmental areas, such as problem-solving, critical thinking, decision-making, and information processing skills, as well as teamwork, communication, and the growth of social skills through both cooperative and competitive components. Additionally, it fosters emotional regulation, self-awareness, and self-confidence through an interactive and engaging experience. Furthermore, PowerPoint presentation holds a low positive correlation towards pupils learning outcome ($r=0.313$, $p=0.02$) this indicated that PowerPoint presentations had a limited impact on overall academic performance. PowerPoint presentations might serve better as an additional resource rather than the main method of instruction. Teachers ought to think about how to effectively utilize PowerPoint presentations by adding engaging visuals, keeping text brief, and including interactive features. PowerPoint presentations can be more impactful when integrated with other teaching strategies, like discussions, practical activities, or collaborative work.

This finding corresponds to the study of Kassa et al. (2024) where traditional slideshow-based instruction, when used alone, may not be the most effective tool for deep learning. PowerPoint presentations can serve as useful visual aids, but their effectiveness largely depends on the quality of content delivery and whether they are paired with interactive discussions or other engaging teaching methods. PowerPoint presentations that include interactive discussions or other captivating teaching techniques can increase their overall effectiveness. Utilizing engaging teaching strategies can also foster deeper understanding and enhance pupils learning outcomes.

Mensah et al. (2021) also mentioned that the impact of PowerPoint lectures found that while pupils appreciated the organization and clarity provided by slides, there was no measurable improvement in learning outcomes compared to traditional lectures. Teachers should prioritize creating lessons that encourage quantifiable learning results instead of solely depending on a specific tool or technology. Teachers ought to think about how to optimize PowerPoint usage by including captivating images, brief text, and interactive features.

Problem 4. Which of the independent variables singly or in combination predict/s the pupils' learning outcomes?

Table 4.

Regression Analysis Between Utilization of Digitized Materials and Learning Outcomes

Variables	UC		SC	t-value	Sig. (P-value)	Decision
	B	SE	β			
Constant	0.4827	0.4487	0.4898	5.6975	0.001	
Downloaded Videos	0.2534	0.2627	0.3527	0.5648	0.064	Accept Ho
Online game-based learning	0.6599	0.4978	0.6579	5.3844	0.001	Reject Ho

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PowerPoint presentation	0.2646	0.2643	0.2578	0.2346	0.085	Accept Ho
	R	R²	Adjusted R²	f-value	Sig. (P-value)	Decision
Model	0.423	0.336	0.381	6.718	0.001	Reject Ho

Note: UC = Unstandardized Coefficients SC = Standardized Coefficients
Dependent Variable = Learning Outcomes Significant when computed p-value <0.05.

Table 4 above presented the analysis of three key variables which predict pupils' learning outcomes. Only online game-based learning showed a significance level that was below $p < 0.05$, identifying it as the best predictor for the pupils' learning outcomes. The standard coefficient value of online game-based learning was $\beta = 0.6579$, $\beta = 0.3527$ for downloaded video and $\beta = 0.2578$ for PowerPoint presentations. Additionally, the unstandardized coefficients for the results are as follows: Online game-based learning $X_1 = 0.6599$, PowerPoint presentation $X_2 = 0.2646$, and Downloaded videos $X_3 = 0.2534$. This shows that when teachers integrated strategies that utilize pupils' engagement and understanding, it enhanced pupils' learning outcomes.

The regression model demonstrates a moderate level of explanatory power, with an R value of 0.423 and an R^2 value of 0.336. This suggests that approximately 33.6% of the variance in pupils learning outcomes, particularly with regard to online game-based learning. As indicated in the f value of 6.178 with a value of $p = 0.001$, it indicates that the regression model is significant only to the online game-based learning that may impact on pupils' learning outcomes.

In the research conducted by Sailer et al. (2020), online game-based learning has been shown to enhance cognitive engagement, motivation, and knowledge retention, making it a powerful tool for improving pupils' performance. Unlike passive learning materials, interactive games encourage problem-solving, immediate feedback, and active participation, which have been linked to higher academic achievement. Research indicated that learning through online games is the strongest indicator towards pupils' learning outcomes. This suggests that a greater emphasis on online game-based learning correlates with notable enhancements in educational results and various other elements. This highlights the success of game-centered approaches in boosting pupils' involvement and academic achievement.

Moreover, online game-based learning has the potential to boost learners' enthusiasm and interest in the material. It can also improve learner engagement, encouraging active participation and involvement. Game-based learning can alleviate learning-related anxiety, fostering a more supportive and enjoyable environment for learning. It serves as an effective approach to enhance learner participation and motivation. Games can be crafted to accommodate various learning styles and needs, offering a tailored learning experience. By enhancing motivation and engagement, game-based learning can lead to better learning outcomes (Chen et al. 2022).

IV. CONCLUSIONS

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

1. Pupils refer using digitized instructional materials to help enhance their learning outcomes.
2. Digitized instructional materials can really help pupils academic learning outcomes.
3. Online game-based learning improved learning performance of pupils.
4. Online game-based learning is a key determinant in boosting pupils' learning outcomes.

V. RECOMMENDATIONS

According to the results and conclusions of the study, the subsequent suggestions are presented:

1. Schools may prioritize the integration of online game-based learning tools into their curriculum, ensuring that these resources are effectively designed and aligned with learning objectives to enhance pupils' engagement and performance.
2. Teachers may incorporate digitized instructional materials in their classroom instructions.
3. Digitized instructional materials must be accessible to the pupils to improve learning outcomes.
4. Teachers may continue to employ interactive learning strategies, such as online game-based learning, to maintain a dynamic and engaging educational environment that fosters pupils' success.

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