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The Effectiveness of Microsoft PowerPoint Software in Enhancing Student Performance in Learning History

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Abstract

This research emphasized the application of PowerPoint presentations in primary schools in Kuching, Sarawak, consequently revealing the efficacy of Microsoft PowerPoint in enhancing students' performance in History education. The literature emphasizes the profound and substantial efficacy of Microsoft PowerPoint in enhancing students' performance in History education. The results indicate that further research is necessary to examine the efficacy of Microsoft PowerPoint in enhancing students' performance in History education. Additional research is required to inform future research and educational policy formulation. This work establishes a basis for future research and methods aimed at enhancing the teaching of History using Microsoft PowerPoint among Malaysian primary school pupils.

Keywords: Microsoft PowerPoint, Performance, History

Introduction

The pedagogical approaches utilized by instructors are vital in skill development and significant learning. Notable progress in technology, economic empowerment, and self-sufficiency attained by nations such as Hong Kong, Japan, Thailand, Singapore, and others can be ascribed, among other causes, to good pedagogical techniques. The significance of education and pedagogical approaches is paramount in this period dominated by Science, Technology, and Mathematics, facilitated by Information and Communication Technology. Science, technology, and engineering significantly contribute to economic progress and the provision of contemporary amenities for humanity. Governments, institutions, and administrations underscore the necessity for a pragmatic, technically-focused curriculum and efficient means for instructing technical courses in schools and educational establishments (Ratu & Komara, 2021).

Research conducted by Saripudin, Fauzi, and Nugraha (2022) indicates that computers and other technology facilitate the adaptation and modification of curriculum materials for at-risk kids, thus equalizing educational chances for all. Educational professionals must prioritize the

optimal utilization of these tools in classrooms, especially for at-risk children. Tang, Wijaya, Weinhandl, Houghton, Lavicza, and Habibi (2022) assert that PowerPoint provides several opportunities for educating those with disabilities. This readily accessible and user-friendly software enables educators to develop captivating and pleasant resources to enhance learning with minimal time and ingenuity. After slides are prepared, they can be replicated across several presentations and kept on disks for utilization on various machines.

Many children are motivated by computer-assisted learning, and for those with physical, cognitive, or learning challenges, PowerPoint offers opportunities for independent practice that would normally require adult assistance. Presentations can be shared with students who have access to PowerPoint or PowerPoint Viewer for extra practice. Teachers only need to spend a small amount of time learning the basics of the program, allowing them to unlock their creativity and use PowerPoint to create more engaging and effective instructional materials for their students.

The use of PowerPoint in education is undeniably contentious. Diverse research undertaken to assess its effects have shown inconclusive outcomes. Although numerous individuals contend that it improves student performance, a minority asserts that it has no direct effect on learning outcomes (Khozaei, Zare, Moneghi, Sadeghi & Taraghdar, 2022). Conversely, social studies involves a broad exploration of various social sciences, such as history, geography, economics, sociology, anthropology, psychology, philosophy, political science, law, and civics. Many scholars argue that social studies aims to develop well-rounded individuals who possess strong critical thinking, problem-solving, and decision-making skills. Likewise, many scholars in social studies education emphasize the significance of computers in fostering students' critical thinking, problem-solving, and decision-making skills (Shah, 2022).

However, there has been little research on how social studies teachers view and use technology in the classroom after receiving in-depth, curriculum-focused technology integration training. In addition to initiatives aimed at increasing understanding of developing technologies, instructors in social studies with a technological focus must redirect their attention from conventional hardware and software concerns (Betti, Biderbost & García Domonte, 2022). The correlation between student accomplishment levels and varying learning outcomes has captured the interest of educational scholars. In classes, especially in primary schools, pupils of diverse skill levels are frequently grouped together and treated similarly, disregarding their individual characteristics (Dahlan, Darhim & Juandi, 2022). Researchers have determined that high-ability pupils generally outperform medium- and low-ability students in certain contexts (Elbourhamy, Najmi & Elfeky, 2023). Research regarding the impact of accomplishment levels on student performance is equivocal. Ye, Wang, and Zhao (2021) indicated that only students with exceptional abilities gain advantages from traditional teaching approaches. Thom, Kimble, Qua, and Wish-Baratz (2021) discovered that high and middle achievers are favored over poor achievers in cooperative learning contexts. Kara (2021) indicated that achievement level did not influence pupils' academic performance. Certain studies investigate the impact of accomplishment levels on student performance in History.

In this setting, social studies educators ought to be more cognizant of the technological transformations affecting contemporary society and strive to incorporate these developments into their classes. Regrettably, the social studies curriculum has not been much impacted by these technological advancements, and the distinctive function of technology in augmenting social studies education remains largely unacknowledged (Goode, Nieuwoudt & Roche, 2022). Mentzer, Isabell, and Mohandas (2024) highlight several important findings from the reviewed social studies intervention studies, including the claim that the incorporation of technological advancements into social studies teaching has significantly improved achievement for both students with and without disabilities, particularly for at-risk students across various age groups, grade levels, and subject areas. Over time, educators and policymakers focused on narrowing the achievement gap and improving student learning have explored solutions involving new technologies, especially for at-risk students. However, the outcomes of these technology initiatives have been inconsistent, and the integration of technology in schools often falls short of the high expectations set by its proponents. The educational environment is filled with narratives and research regarding the challenges faced by at-risk pupils in benefiting from specific innovations aimed at utilizing computers for instruction (Donkin & Rasmussen, 2021).

Recent research has yielded contradictory results about the efficacy of PowerPoint in improving student learning (Setiawan, Sudrajat & Kumalasari, 2021). Yu, Li, and Wang (2024) investigated the influence of PowerPoint on academic performance in history and determined that active student engagement via PowerPoint presentations enhances academic attainment. A comparable study conducted by Mardianto, Matsum, and Sarmita (2022) demonstrated enhancements in the academic performance of fourth-grade kids and a favorable disposition towards the use of PowerPoint in instruction. Khasanah, Kustiono, and Samsudi (2023) observed minimal impact of PowerPoint on students' academic performance. A study conducted by Putri, Permana, and Damariswara (2023) revealed that student performance did not enhance with simple PowerPoint presentations in comparison to conventional approaches. Furthermore, Ratu and Komara (2021) investigated the efficacy of PowerPoint presentations and identified no substantial disparities in academic achievement between computer technology students and English majors. This study emphasized the utilization of PowerPoint presentations in primary schools in Kuching, Sarawak, consequently revealing the efficacy of Microsoft PowerPoint in enhancing students' performance in History education. Consequently, the research inquiries for this study are:

i. Is there an impact of using Microsoft PowerPoint on students' understanding of historical concepts?
ii. Can the use of PowerPoint enhance students' academic performance in the Final Academic Session Examination (UASA) for the History subject?
iii. What are the recommendations for improving students' academic performance in the Final Academic Session Examination (UASA) for the History subject through the use of PowerPoint?

Literature Review

Discussion of Models and Theories

The ADDIE Model

The ADDIE model, a recognized instructional design framework, was created in the 1980s by many writers (Crompton, Jones, Sendi, Aizaz, Nako, Randall & Weisel, 2024). It embodies a systematic approach in instructional design and constitutes the basis for numerous contemporary instructional design (ID) models. Fundamentally, the majority of instructional design frameworks incorporate the fundamental components of ADDIE. Certain experts contend that employing the ADDIE technique for product development is among the most efficacious methodologies now accessible (Mardianto et al., 2022). Rosmiati and Siregar (2021) conducted a study at two educational institutions to examine the instructional models employed by educators in the construction of virtual learning. Soto indicated that more than 75% of 904 educators employed the ADDIE methodology.

During the analysis phase, instructional designers or educators execute a needs assessment to ascertain performance deficiencies and learning objectives. The design process entails defining learning objectives and choosing the appropriate media for implementation. The development phase encompasses the creation of instructional and educational resources. Instruction is administered in the designated environment during implementation (Kuswandi et al., 2021). The evaluation step encompasses both formative and summative assessments. Formative evaluation highlights deficiencies for modification, whereas summative evaluation evaluates the efficacy of education to ascertain if the materials should persist in use (Safitri et al., 2024).

The ADDIE paradigm is not a linear process. All five phases are interrelated, with each of the initial four phases referencing evaluation and revision. Certain theorists assert that the ADDIE process operates as a cyclical model, wherein each phase is interconnected, highlighting the necessity of evaluation and adjustment at every stage (Ratu & Komara, 2021). Simanjuntak and Manurung (2023) delineated six qualities that must be apparent during the implementation of ADDIE:

1. Learner-Centered Design: Focuses on the needs and experiences of learners.
2. Goal-Oriented Design: Aims to achieve specific educational objectives.
3. Performance-Focused Design: Concentrates on meaningful learner performance.
4. Measurable Outcomes: Ensures outcomes can be reliably and validly measured.
5. Empirical, Iterative, and Self-Correcting: Incorporates data-driven decisions and continuous improvement.
6. Collaborative Effort: Typically involves teamwork among various stakeholders (Putri et al., 2023).

Rosmiati and Siregar (2021) examined methods to enhance library instruction through the utilization of technology. Campbell observed that technology may yield more detrimental than beneficial effects when instructional design techniques are deficient. Campbell selected the ADDIE methodology to develop both online and in-person education to ensure uniform learning results in libraries. This approach was chosen for its capacity to develop efficient and unified learning processes and to aid librarians in efficiently incorporating new technology into library training. While the research did not yield data to substantiate the efficacy of

ADDIE, it recommended its application in course design. Campbell contended that the integration of new technology in education should not be perceived solely as the installation of software or the addition of hardware. The procedure must encompass a deliberate design methodology (Simanjuntak & Manurung, 2023). In the absence of design thinking, the integration of new technologies may become disjointed, perplexing, challenging, and less probable to succeed (Donkin & Rasmussen, 2021).

Furthermore, it has been noted that numerous primary school educators depend on conventional teaching approaches, resulting in pupils being passive learners and consequently experiencing inadequate academic achievement. This conventional method is at odds with the student-centered learning practices advocated by the Ministry of Education. These tactics may adversely affect student achievement in History, notwithstanding the utilization of PowerPoint software. A researcher's assessment indicated that 10 of the 33 Year 6D students did not attain satisfactory results in the Mid-Year Academic Session Test (UPSA), particularly exhibiting several failures in History. This may be associated with the pedagogical approaches utilized by educators who primarily eschew innovative instructional methods, especially PowerPoint. This research intends to fill this void.

Technology Acceptance Model (TAM)

TAM specifically examines user perceptions about two aspects of information systems: utility and usability. Davis elucidates the correlation among information system design, perceived utility, perceived ease of use, user attitudes, and actual usage, asserting that design attributes directly affect perceived usefulness and perceived ease of use. System design attributes indirectly influence user attitudes and actual usage behavior by directly affecting perceived usefulness and perceived ease of use (Crompton et al., 2024). The Technology Acceptance Model (TAM) has garnered interest from scholars in instructional design. Kuswandi et al. (2021) asserted that instructional design must be considered in technology adoption, as it is crucial to evaluate aspects influencing tool usage prior to selecting tools for integration into an e-learning environment. Researchers assert that the Technology Acceptance Model (TAM) serves as a supplementary framework in the instructional design process (Khasanah et al., 2023). Simanjuntak and Manurung (2023) asserted that the Technology Acceptance Model (TAM) assists instructional designers and educators in recognizing the specific needs of students within a web-based learning environment. Conversely, researches highlight that instructional design elements might affect students' perceptions and responses to learning technologies (Setiawan et al., 2021). Rosmiati and Siregar (2021) assert that the objective of employing the Technology Acceptance Model (TAM) to assess student perspectives is to enhance the understanding of instructional designers, professors, and university administrators. McCaslin reported the subsequent findings in a study:

1. There exists a positive correlation between students' opinions of Blackboard's utility and their frequency of use.
2. There exists a positive correlation between students' opinions of usability and their engagement with Blackboard.
3. There exists a favorable correlation between students' assessments of the utility and user-friendliness of Blackboard.

McCaslin contended that these findings correspond with the premises of the Technology Acceptance Model (TAM), suggesting that students' evaluations of utility and usability are determinants of their engagement with Blackboard. Moreover, universities must to evaluate the elements that facilitate the success of online courses and strategies for effectively engaging students in these courses (Safitri et al., 2024). Safitri et al. proposed that subsequent study should investigate alternative demographic variables.

Simanjuntak and Manurung (2023) asserted that perceptions of utility and usability influence students' behavioral intentions, which subsequently affect learning satisfaction and indirectly effect perceived learning performance. Utilizing these assumptions, a study was done at an online institution in South Korea to investigate the correlation between students' academic performance and their perceptions of the utility and user-friendliness of a mobile Learning Management System (LMS). A total of 1,117 undergraduate students engaged in the research. A five-point Likert scale was created using the Technology Acceptance Model (TAM), consisting of four items related to learning achievement and three questions each focusing on perceived usefulness and perceived ease of use.

The correlation tests indicated that perceived ease of use was associated with learning achievement, and perceived usefulness was similarly connected to learning achievement. The authors identified a weakness of the study: learning achievement was assessed via student perception surveys. The authors proposed that an analysis grounded in quantifiable data, such as test scores, could enhance the study's conclusions (Khasanah et al., 2023).

Past Related Studies

	Title	Authors	Year	Microsoft PowerPoint	History Subject	Primary School	Data Analysis	Country
1	Development of History Learning Media Based on TPACK Assisted by Ms. PowerPoint Integrated with Ispring Suite	Putut Wisnu Kurniawan, Sumargono	2021	/	/		Research and Development Method	Indonesia
2	The Effectiveness of Blended Learning Assisted by Interactive PowerPoint on Student Achievement of Elementary School Students in Bintarum Group, Demak District	Kusuma, Dini, Murtono, Utomo, Slamet	2022				Quantitative	Indonesia
3	The Effect of Interactive PowerPoint Media Design on Student Learning Interests	Anggun Apriliani Zahra Rosyiddin, Amir Fiqih, Hafsah Nugraha, Angga Hadiapurwa, Diemas Arya Komara	2023	/		/	Quantitative	Indonesia
4	Promoting Prezi PowerPoint presentation in mathematics learning: the development of interactive multimedia by using ADDIE model	U Rosmiati, N Siregar	2020	/			Research and Development Method	Malaysia
5	Employing PowerPoint in the Flipped-Learning Based Classroom to Increase	Naufal Ishartono, Adi Nurcahyo, Suliadi Firdaus bin	2022	/			Quantitative	Malaysia

	Students' Understanding: Does It Help?	Sufahani, Asyifa Nur Afiyah						
6	Development of Learning Media with Power Point Application Based on iSpring Suite 11 in Arabic Language Learning	Nur Ainiyah, Sarwansyah Massi, Wifayatun Nuroniyah, Ratni Bt. Hj. Bahri, Zarima Binti Mohd Zakaria	2024	/			Quantitative	Indonesia
7	Teaching and Learning with Technology: Effectiveness of ICT Integration in Schools	Pavan Jadhav, Hemlata Gaikwad, K. S. Patil	2022	/		/	Quantitative	Malaysia
8	The Efficiency of Using Visual Learning Media in Improving the Understanding of Science Concepts in Elementary School Students	Muhammad Arsyad, Mujahiddin, Abdul Wahab Syakhrani	2024	/		/	Research and Development Method	Indonesia
9	The Effect of PowerPoint Instruction on High School Students' Achievement and Motivation to Learn Geometry	Justice Yawson Mensah, Michael Johnson Nabie	2021	/		/	Mixed Method	Malaysia
10	The Use of Powerpoint As the Instructional Media in Teaching English For Young Learners	Triana Dewi, Evie Kareviati	2021	/		/	Qualitative	Malaysia
11	Comparative Analysis of Mixed Reality and PowerPoint in Education: Tailoring Learning	Radu Emanuil Petruse, Valentin Grecu, Marius-Bogdan Chiliban,	2024	/			Quantitative	Romania

	Approaches to Cognitive Profiles	Elena-Teodora Tâlvan						
12	The Use of Educational Software in Teaching Initial Reading and Writing	Abdullah Şahin, Emine Gül Özenç	2021	/		/	Qualitative	Turkey
13	Prioritizing tasks in software development: A systematic literature review	Yegor Bugayenko, Ayomide Bakare, Arina Cheverda, Mirko Farina, Artem Kruglov, Yaroslav Plaksin, Witold Pedrycz, Giancarlo Succ	2023	/			Systematic Reviews and Meta-Analyses	Turkey

Conclusion

Overall, the inconsistency of the literature on the effectiveness of Microsoft PowerPoint software in improving student performance in History requires more research on the impact of Microsoft PowerPoint software specifically on student achievement. Investigating how effective Microsoft PowerPoint software is in enhancing student performance, especially for primary schools, is an important and timely area of study.

The literature suggests that most previous studies have investigated the effects of PowerPoint and other interactive software on student academic achievement in History. The literature on the effectiveness of Microsoft PowerPoint software in improving student performance in History in primary schools is limited or non-existent. The current study on the effectiveness of Microsoft PowerPoint software in improving student performance in History fills this gap.

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