Proceedings of The 2nd International Conference on Science and Islamic Studies
ISSN: 3024-9058 (Online - Elektronik)
Volume: 2, 2024
Publisher: Program Pascasarjana, UIN Alauddin Makassar

THE EFFECTIVENESS OF GADGET-BASED LEARNING MODELS IN IMPROVING STUDENTS' LEARNING CREATIVITY AT MAN 2 MAKASSAR

Suaebah[1], Syahruddin Usman[2], A. Marjuni[3], & Yuspiani[4]

[1,2,3,4]Universitas Islam Negeri Alauddin Makassar, Indonesia
Correspondence Email: eba.suaebah@icloud.com

ABSTRACT

We live in an era where technology, particularly gadgets, has become an integral part of daily life, including in the field of education. One of the most essential 21st-century skills that students must develop to face future challenges is creativity. Gadget-based learning offers opportunities for personalized instruction tailored to individual learning styles, increasing student engagement and motivation by making learning more interactive and enjoyable. However, implementing gadget-based learning models to enhance student creativity at MAN 2 Makassar still encounters several obstacles. One major issue is unequal access to technology, as not all students have the means to own adequate gadgets or stable internet connections, leading to a digital divide. Additionally, limited digital literacy among teachers hinders their ability to fully integrate gadgets into effective teaching practices. This study aims to examine the extent to which the use of gadgets in the learning process can improve students' creative abilities at MAN 2 Makassar. Specifically, it seeks to provide recommendations for curriculum development that incorporates gadget-based learning, improve the quality of learning through effective technology use, help students develop their creative potential, and prepare them to meet the demands of the digital era that requires innovation and adaptability.

Keywords: Learning model; gadget based; Creativity;

1. INTRODUCTION

The rapid advancement of information and communication technology (ICT) has significantly transformed various dimensions of human life, particularly the field of education. Gadgets such as smartphones, tablets, and laptops, which were once regarded merely as tools for entertainment, have evolved into essential instruments in the learning process (Bimbingan & Impact, 2016). Their integration into educational settings is not only aimed at enhancing the effectiveness and efficiency of learning but also at fostering greater student engagement and

creativity. Through the use of gadgets, learning can be more personalized, adaptable to individual learning styles, and ultimately more enjoyable. When implemented thoughtfully, gadget-based learning encourages active participation, which is essential for cultivating 21st-century skills such as creativity, critical thinking, and digital literacy (Hidayat et al., 2021).

In this digital age, the use of ICT is increasingly seen as an indispensable element in improving the quality of education (Natifa et al., 2024). The development of technology in education must go hand in hand with theoretical advancements and pedagogical innovation. Forms of ICT application in teaching and learning, such as Computer-Based Instruction (CBI), Web-Based Learning (e-learning), and Computer-Assisted Instruction (CAI), are vital in responding to the demands of modern learners. These methods support a student-centered learning environment and provide access to diverse resources that promote self-directed learning. Consequently, integrating gadgets in learning is not merely a trend but a strategic response to the evolving educational landscape.

MAN 2 Makassar, as a leading Islamic educational institution, is committed to preparing students for the challenges of the 21st century. In pursuit of academic excellence, the institution has embraced technological innovations to enhance the quality of its teaching and learning processes. One such initiative is the integration of gadgets into classroom instruction. The use of digital tools aims to create an interactive, engaging, and contextually relevant learning environment that aligns with the interests and needs of students in the digital era (Mufit et al., 2023). Technology-driven instruction at MAN 2 Makassar is not only about digitizing traditional content but about transforming pedagogical approaches to empower learners and promote creativity.

Creativity itself has become a core competency for students in the 21st century. The ability to think creatively, generate innovative solutions, and adapt to new challenges is essential in today's globalized world. One example of a digital platform that has gained popularity among students is TikTok, which features a wide range of content, including educational materials. With its interactive features and user-generated content, TikTok presents a unique opportunity to boost student motivation and engagement if integrated meaningfully into learning activities. Given the platform's widespread use in Indonesia, it can serve as an effective tool for teachers to deliver lessons in a way that resonates with students' daily digital experiences.

As Bujuri et al. (2023) suggest, student learning motivation is often enhanced when learners are intrinsically driven to achieve academic excellence. Motivation serves as a crucial element in successful learning, providing the energy and determination needed for students to engage deeply with learning materials. When combined with creative digital content and interactive platforms, gadgets can transform the classroom into a dynamic and collaborative space that supports both cognitive and emotional engagement. In this context, fostering creativity is not a supplementary objective but a central goal of modern education. According to Permata et al. (2024), education must prioritize the development of students' creative capacities to prepare them for a future that demands innovation, adaptability, and problem-solving skills. Therefore, the effective use of gadgets in educational institutions such as MAN 2 Makassar has the potential to significantly enhance not only the learning experience but also the development of essential life skills that will benefit students beyond the classroom.

2. METHODS

This study employs a qualitative research approach to investigate the effectiveness of gadget-based learning models in enhancing students' creativity at MAN 2 Makassar. Qualitative research is particularly suitable for this investigation, as it allows the researcher to explore the complex and multifaceted nature of teaching and learning experiences in their real-world context. Unlike quantitative methods, which focus on numerical data and generalizability, qualitative research emphasizes meaning-making, in-depth understanding, and interpretation of social phenomena. Through this approach, the study aims to examine not only the perceived benefits of gadget-based learning but also the underlying processes, student engagement patterns, and pedagogical shifts that accompany its implementation. The research adopts a case study design, which is a common and effective strategy within qualitative research for exploring contemporary phenomena within bounded systems. In this context, the bounded system is represented by specific classrooms or grade levels within MAN 2 Makassar. By focusing on selected classes, the researcher is able to engage in detailed observation and data collection over a sustained period, allowing for a nuanced understanding of the learning environment and the specific role that gadgets play in shaping student creativity. The case study design is also flexible enough to accommodate multiple data sources, thereby enhancing the credibility and richness of the findings.

Data collection is carried out through a triangulation of three primary methods: interviews, observations, and document analysis. Triangulation enhances the validity of qualitative research by enabling cross-verification of data from multiple sources. First, in-depth interviews are conducted with various stakeholders, including students, subject teachers, and school administrators. These interviews seek to uncover participants' perspectives on how gadget-based learning is perceived, implemented, and evaluated in practice. In particular, students are asked to reflect on how gadget use influences their motivation, cognitive engagement, and creative expression. Teachers and administrators, meanwhile, provide insights into pedagogical strategies, institutional support, and constraints in applying technology-based learning models.

In addition to interviews, classroom observations play a vital role in capturing the dynamics of gadget-based instruction. The researcher engages in both participatory and non-participatory observations. In participatory observation, the researcher actively participates in classroom sessions, observing interactions among students, teacher-student exchanges, and how gadgets are integrated into the instructional process. This allows the researcher to witness the actual application of lesson plans, the emergence of creativity in student activities, and the overall classroom climate. In non-participatory observation, the researcher observes from a distance without directly interacting with participants, thus minimizing any influence on their natural behavior. These observations are documented systematically through field notes, audio recordings (where permitted), and observation checklists.

The third method of data collection involves document analysis, which includes the examination of relevant educational documents such as curriculum guides, syllabi, lesson plans, assessment rubrics, and student work. In particular, the study reviews student-created materials – such as multimedia presentations, short videos, digital posters, or other creative outputs – to

assess the manifestations of creativity in response to gadget-based learning tasks. These artifacts serve as tangible evidence of student engagement and creative thinking and are essential in drawing conclusions about the pedagogical value of technology integration. Data analysis is conducted using an inductive thematic approach. This involves multiple stages: initial data immersion, coding, theme generation, and interpretation. The researcher first transcribes the interviews and organizes the observation and document data. Next, codes are assigned to recurring words, phrases, or concepts that emerge from the data. These codes are then clustered into categories, which are further synthesized into overarching themes. Through this process, the researcher identifies key patterns that illuminate how gadget-based learning contributes to – or potentially hinders – student creativity. Care is taken to ensure that the analysis remains grounded in the data and reflects participants' authentic voices.

To enhance the trustworthiness of the study, strategies such as member checking, prolonged engagement, and peer debriefing are employed. Member checking allows participants to verify the accuracy of their interview transcripts and interpretations, while prolonged engagement ensures that the researcher develops a deep and contextualized understanding of the research setting. Peer debriefing involves discussing emerging themes with fellow researchers or supervisors to ensure analytical rigor and reduce bias. In conclusion, the qualitative methodology used in this study – supported by a case study design and a triangulated data collection process – offers a robust framework for examining the nuanced impact of gadget-based learning on student creativity. The findings of this research are expected to contribute meaningfully to the discourse on digital pedagogy in Islamic educational institutions and offer practical insights for improving technology-enhanced learning strategies in Indonesia and beyond.

3. RESULTS AND DISCUSSION

This study investigated the effectiveness of gadget-based learning models in enhancing student creativity at MAN 2 Makassar through a qualitative case study approach. Data obtained from interviews, observations, and documentation were thematically analyzed to identify key patterns, experiences, and tensions surrounding the use of gadgets in the teaching-learning process. The findings revealed a complex interplay of positive impacts, systemic challenges, and transformative potential, both from the perspective of students and educators.

Enhanced Student Engagement and Creativity

The most prominent result observed was a marked increase in student engagement when gadgets were integrated into the learning environment. Students consistently reported feeling more motivated, interested, and involved in learning activities when technology – particularly smartphones, tablets, and laptops – was used as part of instruction. The interactive nature of digital content, such as educational videos, quizzes, and multimedia assignments, allowed students to participate more actively in the learning process. Importantly, students described feeling a greater sense of agency and creative freedom when using gadgets. For example, they were able to design digital posters, produce short educational videos, engage with interactive simulations, and use social media applications like TikTok to creatively express their

understanding of Islamic, scientific, and cultural content. These observations align with studies by Irayana and Assyauqi (2024), which highlight how technology-supported learning environments foster ideation, experimentation, and problem-solving – key components of 21st-century creativity. However, it must be critically noted that the level of creativity displayed was not uniform across all students. Some students demonstrated advanced digital production skills, while others remained passive consumers of content. This discrepancy suggests that gadget-based learning alone does not guarantee creative development; rather, it must be supported by structured tasks, clear guidance, and pedagogical scaffolding that promote critical thinking and originality.

Uneven Access and Digital Equity Challenges

While the integration of gadgets holds considerable promise, the study also uncovered critical issues related to digital equity. Not all students had equal access to high-quality devices or stable internet connections, especially those from low-income households. Some students relied on outdated smartphones with limited storage, while others depended on mobile data that was often insufficient to access video-heavy content. These disparities affected student participation and the quality of work produced. Students who lacked access to appropriate technology frequently experienced stress, marginalization, or even disengagement from gadget-based activities. Thus, the study underscores that the implementation of digital learning models without addressing issues of access can inadvertently exacerbate existing educational inequalities – a finding consistent with global research on the digital divide (Selwyn, 2016). Moreover, the school infrastructure at MAN 2 Makassar – though improving – was not uniformly equipped to support consistent gadget use. Classrooms lacked adequate charging ports, projectors, and reliable Wi-Fi networks. Teachers also expressed concern over the lack of technical support when devices malfunctioned or when platforms failed to load content.

Teacher Readiness and Pedagogical Shifts

Another critical theme that emerged was educator readiness. While some teachers embraced the shift toward gadget-based instruction, others struggled due to limited digital competence or lack of pedagogical training. Several teachers admitted that they were not adequately prepared to design lesson plans that effectively integrated technology in ways that aligned with curriculum goals. Teachers also faced difficulties in maintaining discipline and focus during gadget-based activities. The open-ended nature of gadget usage, combined with the availability of social media and entertainment apps, often led students to become distracted. Consequently, some teachers reverted to traditional lecture-based methods to maintain classroom order. This reflects a larger pedagogical dilemma: while student-centered digital learning is desirable, its effective implementation requires strong classroom management strategies and continual professional development (Koehler & Mishra, 2009). Moreover, the study revealed that many teachers equated the use of gadgets with merely converting analog materials into digital slides, without significant shifts in instructional strategy. This "substitution approach" (Puentedura, 2013) reflects the lowest level of the SAMR model of technology integration, where technology is used only to substitute traditional tools rather than to transform the learning experience.

Shifting Learning Culture and Student Responsibility

One of the most encouraging findings was the emerging sense of learner autonomy and ownership among students. Many students began exploring content beyond what was given in class, searching for YouTube tutorials, joining online study groups, and even creating their own content. These behaviors indicate a shift toward a constructivist learning culture, where learners are active constructors of knowledge rather than passive recipients. Nonetheless, the study also found that self-regulation and digital discipline remain major concerns. A significant number of students admitted difficulty in managing screen time, staying focused on academic tasks, and resisting the lure of non-academic digital distractions. This signals the need for digital citizenship education that goes beyond technical skills and addresses habits, ethics, and cognitive discipline in the digital age (Ribble, 2012). Additionally, it became clear that creativity, while enhanced through gadgets, can be misdirected without proper guidance. For instance, some students produced flashy but shallow content that prioritized aesthetics over substance. This suggests that creativity should not be measured by visual appeal alone but must be tied to depth of understanding, originality, and relevance.

Broader Implications and Policy Considerations

Critically, the findings of this study offer broader implications for school leadership and educational policy. For schools like MAN 2 Makassar, adopting gadget-based learning must be accompanied by systemic planning that includes: 1) Digital infrastructure development, including reliable internet access and adequate school-owned devices. 2) Professional development programs for teachers focused on pedagogical innovation, classroom management in digital contexts, and curriculum redesign. 3) Student training on digital responsibility, time management, and critical content evaluation. 4) Monitoring and evaluation mechanisms to assess the impact of digital learning initiatives on long-term student outcomes.

Furthermore, this research highlights that digital transformation in education is not merely a matter of inserting gadgets into classrooms but involves a paradigm shift in teaching, learning, and institutional culture. For technology to truly enhance student creativity, schools must move from viewing gadgets as tools for passive consumption to instruments of exploration, co-creation, and problem-solving. In summary, while the use of gadgets at MAN 2 Makassar has demonstrated a strong potential to enhance student motivation and creativity, several structural, pedagogical, and ethical challenges must be addressed. Effective implementation of gadget-based learning requires a whole-school approach grounded in equity, teacher empowerment, and learner-centered practices. Without these, the promise of technology in education risks becoming superficial or even counterproductive.

4. CONCLUSION

This study has explored the effectiveness of gadget-based learning models in enhancing student creativity at MAN 2 Makassar through a qualitative case study approach. The findings provide substantial evidence that, when implemented thoughtfully, the integration of digital tools into the classroom setting significantly contributes to increased student engagement,

motivation, and creative thinking. Gadgets – such as smartphones, tablets, and laptops – have transformed the learning landscape by offering students more personalized, flexible, and interactive educational experiences. This transformation is especially critical in the context of 21st-century learning, which demands not only content mastery but also the ability to think creatively, collaborate effectively, and solve complex problems. The study reveals that the use of gadgets fosters a sense of autonomy and curiosity among students, allowing them to explore learning resources beyond textbooks, generate original content, and apply knowledge in meaningful ways. Students expressed that gadget-supported lessons were more enjoyable, engaging, and relevant to their lives. Applications like TikTok, YouTube, and Canva were creatively utilized to demonstrate learning outcomes, thereby cultivating digital literacy and multimodal expression – skills increasingly valued in both academic and professional domains.

However, the study also critically underscores several challenges that limit the effectiveness of gadget-based learning. Digital inequality remains a pressing issue, as not all students have access to appropriate devices or stable internet connectivity, potentially reinforcing socio-economic disparities. Additionally, the lack of digital pedagogical training for teachers hinders their ability to fully harness the creative potential of technology. Some educators continue to use gadgets merely as digital replacements for traditional media, without rethinking instructional strategies or fostering higher-order thinking skills. Classroom management also emerged as a concern, as both students and teachers struggle with distractions and the overuse of non-academic content. Despite these challenges, the research confirms that gadget-based learning – when supported by inclusive infrastructure, competent digital pedagogy, and a student-centered curriculum – can serve as a powerful vehicle for developing student creativity. The key lies in shifting from a consumption-based model of learning to one that emphasizes creation, exploration, and collaboration.

To ensure sustainable and impactful implementation, the study recommends that schools, particularly MAN 2 Makassar, invest in teacher professional development, establish clear digital usage policies, promote digital ethics and time management skills among students, and continually evaluate the effectiveness of technological integration. Furthermore, educational policymakers should consider embedding creative digital literacy within the national curriculum to foster innovation, equity, and lifelong learning skills. In conclusion, gadget-based learning is not merely a trend but a pedagogical necessity in preparing students for the complexities of the digital age. Its effectiveness depends not only on access to devices but also on how schools, teachers, and students collectively redefine the learning experience to prioritize creativity, critical thinking, and meaningful engagement.

Acknowledgment

We would like to express our sincere gratitude to all individuals and institutions that have supported the completion of our research journal entitled "The Effectiveness of Gadget-Based Learning Models in Improving Students' Learning Creativity at MAN 2 Makassar." This study was conducted to explore the extent to which the integration of gadgets into the learning process can enhance students' creative thinking abilities in line with 21st-century educational demands. The findings of this study demonstrate that gadget-based learning significantly boosts student motivation and fosters greater creativity in learning activities. We hope that this research contributes meaningfully to the ongoing discourse on technology-enhanced learning and serves as a foundation for the development of more

innovative, engaging, and relevant learning models tailored to the digital generation. We are deeply grateful for the attention, interest, and support from readers, fellow researchers, educators, and policymakers. Constructive feedback and suggestions for improving this study or informing future research are warmly welcomed. May this work inspire further academic inquiry and practical innovation in the field of educational technology.

REFERENCES

Bimbingan, K., & Impact, K. (2016). Kata kunci, 13(2), 1–13.

Bujuri, D. A., Sari, M., Handayani, T., & Saputra, A. D. (2023). Penggunaan media sosial dalam pembelajaran: Analisis dampak penggunaan media TikTok terhadap motivasi belajar siswa di sekolah dasar. Jurnal Ilmiah Pendidikan Dasar, 10(2), 112–127. https://doi.org/10.30659/pendas.10.2.112-127

Hastuti, F. A. (2018). Pengaruh perbandingan sosial dan harga diri terhadap ketidakpuasan tubuh pada mahasiswa. Book Press.

Hidayat, H., Nurfadilah, A., Khoerussaadah, E., & Fauziyyah, N. (2021). Meningkatkan kreativitas guru dalam pembelajaran anak usia dini di era digital. Jurnal Pendidikan Anak, 10(2), 97–103. https://doi.org/10.21831/jpa.v10i2.37063

Irayana, I., & Assyauqi, I. (2024). Eksperimen penerapan pembelajaran berbasis proyek (PJBL) pada peningkatan kreativitas anak usia dini. JEA (Jurnal Edukasi AUD), 10(1), 47–56. https://doi.org/10.18592/jea.v10i1.11422

Mufit, F., Hendriyani, Y., Usmeldi, D., Dhanil, M., & Tanjung, M. R. (2023). The effectiveness of smartphone-based interactive multimedia integrated cognitive conflict models to improve 21st-century skills. International Journal of Information and Education Technology, 13(11), 1793–1801. https://doi.org/10.18178/ijiet.2023.13.11.1991

Natifa, R., Aulia, S., Muazaroh, S., & Laras, W. (2024). Efektivitas pembelajaran berbasis computer simulation terhadap hasil belajar peserta didik. Catha: Journal of Creative and Innovative Research, 1(3), Article 3046–8760.

Permata, D. D., Rukajad, A., & Herdiana, Y. (2024). Pemanfaatan aplikasi Kahoot sebagai media pembelajaran PAI siswa kelas VIII pada masa pandemi di SMP Negeri 3 Karang Bahagia Bekasi. Al-Ulum: Jurnal Pemikiran dan Penelitian Keislaman, 11(1), 1–10. https://doi.org/10.31102/alulum.11.1.2024.1-10