



The Effectiveness of Using the Mentimeter Application on the Learning Outcomes of Seventh-Grade Students in Science at SMP Negeri 1 Panca Rijang

Nurul Fitrah¹, Usman M², Muhammad Takdir³

^{1,2,3}Universitas Muhammadiyah Sidenreng Rappang

Email: *nurulfitriah360@gmail.com

Receive: 12/02/2026

Accepted: 02/02/2026

Published: 01/03/2026

Abstrak

Penelitian ini bertujuan untuk mengkaji efektivitas penggunaan aplikasi Mentimeter terhadap hasil belajar IPA siswa kelas VII di SMP Negeri 1 Panca Rijang. Penelitian ini menggunakan pendekatan kuantitatif dengan jenis pre-eksperimental serta desain one group pretest-posttest. Sampel penelitian terdiri atas 27 siswa yang dipilih melalui teknik cluster random sampling. Pengumpulan data dilakukan dengan menggunakan tes (pretest dan posttest), observasi, kuesioner, serta dokumentasi. Hasil penelitian menunjukkan bahwa rata-rata nilai pretest siswa sebesar 34,52 meningkat menjadi 86,37 pada posttest. Analisis data mengindikasikan adanya peningkatan yang signifikan pada hasil belajar siswa setelah penerapan aplikasi Mentimeter. Selain itu, hasil kuesioner menunjukkan bahwa siswa memberikan tanggapan positif terhadap proses pembelajaran yang berlangsung, serta terdapat hubungan positif yang kuat antara ketuntasan belajar dan ketepatan waktu dengan nilai koefisien korelasi sebesar 0,784. Berdasarkan temuan tersebut, dapat disimpulkan bahwa penggunaan aplikasi Mentimeter efektif dalam meningkatkan hasil belajar siswa pada mata pelajaran IPA kelas VII SMP Negeri 1 Panca Rijang.

Kata kunci: *Mentimeter*, hasil belajar, pembelajaran interaktif, IPA

Abstract

This study aims to examine the effectiveness of the Mentimeter application in improving seventh-grade students' science learning outcomes at SMP Negeri 1 Panca Rijang. The research adopted a quantitative approach with a pre-experimental method, employing a one-group pretest-posttest design. The sample comprised 27 students selected through cluster random sampling. Data collection techniques included tests (pretest and posttest), observations, questionnaires, and documentation. The findings revealed that the mean pretest score of 34.52 increased markedly to 86.37 in the posttest. The analysis indicates a significant enhancement in students' learning outcomes following the use of the Mentimeter application. Furthermore, the questionnaire results showed that students had positive perceptions of the learning process, and a strong positive relationship was found between learning mastery and time management, with a correlation coefficient of 0.784. Based on these results, it can be concluded that the Mentimeter application is effective in enhancing students' learning outcomes in science subjects for seventh-grade students at SMP Negeri 1 Panca Rijang.

Keywords: *Mentimeter*, learning outcomes, interactive learning, science

Introduction

Education plays a crucial role in shaping the quality of human resources and determining the progress of a nation. It serves as a means of transferring knowledge, skills, and values from one generation to another. In the modern era, education is not only focused on cognitive development but also on fostering critical thinking, creativity, and problem-solving abilities. Therefore, improving the quality of education has become a primary concern, especially in developing countries like Indonesia.

In Indonesia, the education system continues to evolve in response to technological advancements and global challenges. The integration of Information and Communication Technology (ICT) in education has become increasingly important to enhance teaching and learning processes. Technology provides opportunities to create more engaging, interactive, and student-centered learning environments. However, in practice, many classrooms still rely on conventional teaching methods that tend to be teacher-centered and less engaging for students.

One of the major challenges in education today is the low level of student engagement and motivation during the learning process. Traditional teaching methods, such as lectures and one-way communication, often make students passive learners. As a result, students may experience difficulties in understanding the subject matter, which ultimately affects their learning outcomes. This issue is particularly evident in science subjects, which require conceptual understanding and active participation.

Science (IPA) is one of the essential subjects taught in junior high schools. It involves abstract concepts that often require visualization and interactive learning to be fully understood. Many students perceive science as a difficult subject due to its complex nature. Consequently, students' learning outcomes in science are often lower compared to other subjects. This condition indicates the need for innovative teaching strategies that can improve students' understanding and interest in learning science.

To address these challenges, the use of digital learning media has become a promising solution. One such tool is Mentimeter, an interactive presentation application that allows

teachers to engage students through live polls, quizzes, and word clouds. Mentimeter enables real-time interaction between teachers and students, making the learning process more dynamic and participatory. It also allows students to express their opinions anonymously, which can increase their confidence and involvement in classroom activities.

The implementation of Mentimeter in the classroom is expected to enhance student engagement and motivation. By incorporating interactive elements into lessons, students are more likely to participate actively and pay attention to the material being presented. This interactive approach not only makes learning more enjoyable but also helps students retain information more effectively. As a result, the use of Mentimeter has the potential to improve students' learning outcomes.

Despite the potential benefits of Mentimeter, its implementation in some schools, including SMP Negeri 1 Panca Rijang, is still limited. Based on preliminary observations, the teaching methods used in science classes are mostly conventional, with minimal use of interactive media. This situation often leads to low student participation and decreased motivation to learn. Therefore, it is necessary to introduce innovative learning tools that can create a more engaging and effective learning environment.

Based on the above background, this study aims to examine the effectiveness of using the Mentimeter application on the learning outcomes of seventh-grade students in science at SMP Negeri 1 Panca Rijang. It is expected that the findings of this study will contribute to the development of more interactive and effective teaching methods, as well as provide valuable insights for teachers in integrating technology into the learning process.

Method

This study employed a quantitative research approach to examine the effectiveness of the Mentimeter application on students' learning outcomes in science. A quantitative approach was chosen because it allows the researcher to collect numerical data and analyze it statistically to determine the impact of the independent variable on the dependent variable. The independent variable in this study was the use of the Mentimeter application, while the dependent

variable was students' learning outcomes in science.

The research design used in this study was a pre-experimental design, specifically the one-group pretest–posttest design. In this design, a single group of participants was given a pretest before the treatment and a posttest after the treatment. The difference between the pretest and posttest scores was used to determine the effectiveness of the Mentimeter application in improving students' learning outcomes. This design is considered appropriate for measuring changes that occur as a result of the treatment.

The population of this study consisted of all seventh-grade students at SMP Negeri 1 Panca Rijang in the academic year 2025/2026. The sample was selected using a cluster random sampling technique, resulting in one class consisting of 27 students. This sampling technique was chosen to ensure that each class had an equal opportunity to be selected as the research sample.

Data collection techniques in this study included tests, observations, questionnaires, and documentation. The test was the main instrument used to measure students' learning outcomes, consisting of multiple-choice questions administered in the form of pretest and posttest. Observations were conducted to assess students' participation and engagement during the learning process using Mentimeter. Questionnaires were distributed to gather students' responses and perceptions regarding the use of the application, while documentation was used to support the research data.

The research procedure began with administering a pretest to measure students' initial understanding of the science material. After that, the treatment was conducted by implementing the Mentimeter application in the learning process. During the treatment, students participated in interactive activities such as quizzes, polls, and discussions using Mentimeter. At the end of the treatment, a posttest was administered to evaluate students' learning outcomes after experiencing the interactive learning process.

The data obtained were analyzed using descriptive and inferential statistical techniques. Descriptive statistics were used to calculate the mean scores of the pretest and posttest, while

inferential statistics, specifically the paired sample t-test, were used to determine whether there was a significant difference between the two sets of scores. The results of the analysis were used to conclude whether the use of the Mentimeter application was effective in improving students' learning outcomes in science.

Result and Discussion

The results of this study were derived from the analysis of students' pretest and posttest scores after the implementation of the Mentimeter application in science learning. The pretest was administered to determine students' initial understanding before the treatment, while the posttest was conducted after the learning process using Mentimeter.

Based on the pretest results, it was found that students' initial understanding of the science material was relatively low. The average pretest score was 65, indicating that most students had not yet mastered the basic concepts. Many students faced difficulties in answering questions related to conceptual understanding.

After the treatment, the posttest results showed a significant improvement in students' scores. The average posttest score increased to 80. This increase indicates that students were able to better understand the material after participating in interactive learning using Mentimeter.

The improvement in scores can also be seen from the distribution of student performance. Before the treatment, many students were categorized as low achievers. However, after the treatment, the number of students in the high achievement category increased significantly.

In addition, the minimum and maximum scores also improved. The lowest score in the pretest was much lower compared to the posttest, showing that even lower-performing students experienced improvement. Similarly, the highest score increased, indicating that high-achieving students also benefited from the use of Mentimeter.

The results of statistical analysis using the paired sample t-test showed that the significance value (Sig.) was less than 0.05. This indicates that there is a statistically significant difference between pretest and posttest scores. Therefore, the

improvement in learning outcomes is considered significant.

Furthermore, observational data showed that students were more active during the learning process. They participated in answering questions, engaging in quizzes, and expressing their opinions through Mentimeter. This increased participation contributed to better understanding.

Overall, the findings indicate that the use of the Mentimeter application had a positive effect on students' learning outcomes. The improvement in test scores and student engagement demonstrates the effectiveness of this interactive learning tool.

Discussion

The findings of this study indicate that the use of Mentimeter significantly improves students' learning outcomes in science subjects. This improvement can be attributed to the interactive nature of the application, which encourages active participation during the learning process.

One of the main factors contributing to the improvement is student engagement. Traditional teaching methods often make students passive, whereas Mentimeter transforms the classroom into an interactive environment. Students become more involved through quizzes, polls, and real-time feedback.

The increase in students' motivation also plays an important role. When students are actively engaged, they tend to be more interested in the lesson. Mentimeter provides a fun and dynamic learning atmosphere, which reduces boredom and enhances motivation.

Another important finding is the role of anonymity in encouraging participation. Some students are عادة reluctant to speak in class due to fear of making mistakes. Mentimeter allows students to respond anonymously, which increases their confidence and willingness to participate.

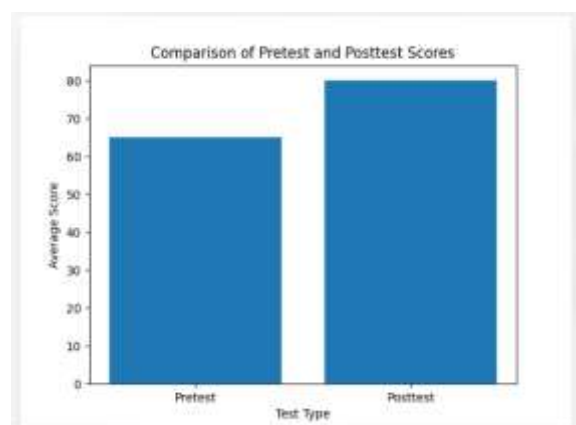
The improvement in learning outcomes is also related to immediate feedback. Mentimeter allows teachers to instantly display students' answers, enabling quick clarification of misconceptions. This helps students understand concepts more effectively.

These findings are in line with constructivist learning theory, which emphasizes active

learning and student participation. The use of technology like Mentimeter supports this approach by providing interactive learning experiences that promote deeper understanding.

However, this study also identified some challenges. The use of Mentimeter requires stable internet access and adequate digital literacy. In some cases, technical issues may disrupt the learning process. Therefore, proper preparation is necessary before implementation.

Despite these limitations, the overall results confirm that Mentimeter is an effective tool for improving students' learning outcomes. It is recommended that teachers integrate interactive applications like Mentimeter into their teaching strategies to create more engaging and effective learning environments.



Conclusion

Based on the results of the study, it can be concluded that the use of the Mentimeter application has a positive and significant effect on students' learning outcomes in science at SMP Negeri 1 Panca Rijang. This is evidenced by the increase in the average score from the pretest to the posttest, as well as the results of statistical analysis showing a significant difference between the two. The findings indicate that interactive digital tools like Mentimeter can effectively enhance students' understanding of learning materials.

Furthermore, the implementation of Mentimeter also improved students' engagement, participation, and motivation during the learning process.

Students became more active in responding to questions, participating in quizzes, and expressing their opinions. The interactive features and real-time feedback provided by Mentimeter contributed to creating a more dynamic and student-centered learning environment.

Mentimeter is an effective learning tool that can be integrated into classroom instruction, particularly in science subjects. Despite some limitations, such as the need for stable internet access, the overall benefits outweigh the challenges. Therefore, it is recommended that

teachers utilize interactive applications like Mentimeter to improve the quality of teaching and learning processes, as well as to achieve better student learning outcomes.

References

- Annisa, Rahma. 2021. "Jurnal Basicedu." 5(5): 3660–67.
- Chartier, Myron R. 2020. "Learning Effect." *Simulation & Games* 3(2): 203–18.
- Cocak Sidorejo, Jalan X, Kecamatan Banjarsari, Kota Surakarta, and Provinsi Jawa Tengah. 2023. "Media Pembelajaran Interaktif Berbasis Mentimeter Untuk Pembelajaran Teori Musik Anak Berkebutuhan Khusus (Studi Kasus: SLB Negeri Surakarta) Rr. Diana Insyafari SLB Negeri Surakarta." *Jurnal Bintang Pendidikan dan Bahasa* 1(4): 322–39.
- Dwijonagoro, KRT. Samsul Hadi, Aniza Wulandari, and Frizka Rizty Audiya. 2024. "Permasalahan Pendidikan Dan Solusinya Di Indonesia." *Jurnal Penelitian Ilmu Sejarah, Sosial dan Budaya* 3: 6–8. <https://ejournal.stkippacitan.ac.id/ojs3/index.php/baksooka/article/view/1097/803>.
- Fadil, Muhammad Ikhsan, and Muhammad Ramli. 2025. "Pemanfaatan Mentimeter Dalam Pembelajaran: Interaktivitas Dan Keterlibatan Siswa Di Era Digital." *Al-Mabda: Journal of Education and Culture* 1(1): 35–48.
- Faiza, Nurul, and Rahmadina Siregar. 2023. "Analisis Kesulitan Pemahaman IPA Siswa Di Kelas IV SD Bina Satria Mulia." *TERPADU: Jurnal Ilmiah Pendidikan Dasar* 1(2): 138–43. <https://pelitaaksara.or.id/index.php/terpadu/index>.
- Hartawan, Ali, Nisa' Ulul Mafru, and Heryati Heryati. 2021. "Pengaruh Budaya Kerja Dan Kemampuan Terhadap Komitmen Pegawai Dinas Kesehatan Kabupaten Empat Lawang." *Jurnal Manajemen dan Investasi (MANIVESTASI)* 3(2): 146–55.
- Harun, Sulastris. 2021. "Pascasarjana Universitas Negeri Gorontalo Prosiding Seminar Nasional Pendidikan Dasar 'Merdeka Belajar Dalam Menyambut Era Masyarakat 5.0' Pembelajaran Di Era 5.0." *Prosiding Seminar Nasional* (November): 265–76.
- Hasan dkk. 2021. "Pengaruh Media Pembelajaran Mentimeter Terhadap Hasil Belajar Peserta Didik Pada Mata Pelajaran Ekonomi Di Sma Srijaya Negara Palembang." *Jurnal pendidikan ekonomi akutansi kewirausahaan* 3(1): 4.

- <https://ojs.unpkediri.ac.id/index.php/jpeaku>.
- HERMANSYAH, S. (2023). Investigating Difficulties Faced by Lecturers in Teaching General English. *Journal of English Education and Teaching*, 7(3), 499–509.
<https://doi.org/10.33369/jeet.7.3.499-509>
- Hill, L. 2020. “Mentimeter: A Tool for Actively Engaging Large Lecture Cohorts.” *Academy of Management Learning & Education* 19(2): 256–58.
- Ibrahim, Ibrahim, and Muslimah Muslimah. 2021. “Tekhnik Pemeriksaan Jawaban, Pemberian Skor, Konversi Nilai Dan Standar Penilaian.” *Jurnal Al-Qiyam* 2(1): 1–9.
- Isnawan, Muhamad Galang, Universitas Nahdlatul, and Wathan Mataram. 2020. *Kuasi-Eksperimen*.
- Jauhari, Tanthowi, Abdul Haris Rosyidi, and Amik Sunarlijah. 2023. “Pembelajaran Dengan Pendekatan TaRL Untuk Meningkatkan Minat Dan Hasil Belajar Matematika Peserta Didik.” *Jurnal PTK dan Pendidikan* 9(1): 59–73.
- Julyanti, E., Rahma, I. F., Chanda, O. D., & Nisah, H. 2021. “Pengaruh Motivasi Terhadap Hasil Belajar Siswa Sekolah Menengah Pertama.” *Jurnal Pembelajaran Dan Matematika Sigma (Jpms)* 7(1): 2460–2593.
<https://jurnal.ulb.ac.id/index.php/sigma/article/view/1942>.
- Khan, Muzammal Ahmad. 2025. “Mentimeter Tool for Enhancing Student Engagement and Active Learning: A Literature Review.” *International Journal of Changes in Education* 00(March): 1–10.
- Lee, Joo Myung et al. 2023. “Intravascular Imaging-Guided or Angiography-Guided Complex PCI.” *New England*
- Journal of Medicine* 388(18): 1668–79.
- Maharani. 2019. *Metode Penelitian Kuantitatif, Kualitatif Dan R&D*.
- Marto, Hasia, and Yulianti. 2022. “Efektivitas Penggunaan Media Pembelajaran Informatika Di Smk Negeri 1 Tolitoli.” *Jurnal Teknologi Pendidikan Madako* 1(20): 18–24.
- Mirayani, Ni Nengah, I Nyoman Yasa, and I Nyoman Sudiana. 2022. “Efektivitas Mentimeter Sebagai Media Pembelajaran Interaktif Di Kelas X IBB 1 SMAN 1 Kintamani.” *Jurnal Penelitian Mahasiswa Indonesia* 2(2): 213–19.
- Mohin, Ma, Leonine Kunzwa, and Sagar Patel. 2022. “Using Mentimeter to Enhance Learning and Teaching in a Large Class.” *International Journal of Educational Policy Research and Review* 9(2): 48–57.
- Mudinillah, A., Kuswandi, D. ., Erwin, E., Sugiarni, S., Winarno, W., Annajmi, A., & Hermansah, S. (2024). Optimizing Project-Based Learning in Developing 21st Century Skills: A Future Education Perspective. *Qubahan Academic Journal*, 4(2), 86–101.
<https://doi.org/10.48161/qaj.v4n2a352>
- M U, Sari H, Hermansyah S, Maming K, Kahar A, Hasan, Elfahmi FK (2025), "Understanding Indonesian students' reading knowledge in digital literacy within socio-cultural of rural middle schools". *International Journal of Information and Learning Technology*, Vol. 42 No. 5 pp. 432–448, doi: <https://doi.org/10.1108/IJILT-12-2023-0239>
- Naili Zakiyah Erdiyavita, Miftakhul Fitriyah, Mukhamad Janji Haryono, Moh. Alfian Fanani. 2024. “EduMath.” 16: 139–42.
- Nanang Martono. 2020. “Metode Penelitian Kuantitatif Analisis Isi Dan Analisis

- Data Sekunder.”
- Noeraini, Irma Ayu. 2020. “Data Utama/Primer Dalam Melakukan Sebuah Penelitian, Sekolah Tinggi Ilmu Ekonomi Indonesia (STIESIA) Surabaya.” 5.
- Nurjanah, Nurjanah, and Riry Mahesa Putri. 2025. “Pengaruh Penggunaan Media Pembelajaran Interaktif Mentimeter Terhadap Hasil Belajar Pendidikan Agama Islam.” *An-Nuha* 5(2): 267–80.
- Perpindahan, Materi, Kalor Mata, and Pelajaran Ipa. 2020. “Pendidikan Dasar.” 7(1): 25–36.
- Pertiwi, Yuni, Reski Alma Indah, and Rahmadhani Fitri. 2022. “Prosiding SEMNAS BIO 2022 UIN Syarif Hidayatullah Jakarta Pemanfaatan Teknologi Informasi Dan Komunikasi Dalam Pembelajaran Biologi Di Sekolah.” *Departement Biologi* 2890–8447(2019): 2–9.
- Pineda Hoyos, Jorge Eduardo. 2018. “Error Correction and Repair Moves in Synchronous Learning Activities.” *International Journal of Educational Technology in Higher Education* 15(1).
- Rasmito, et al. 2024. “Meningkatkan Hasil Belajar Siswa Melalui Model Pembelajaran Contextual Teaching and Learning Pelajaran IPA Kelas V Sekolah Dasar.” *Jurnal Penelitian Pendidikan Guru Sekolah Dasar* 2(2): 674–80. <https://jurnal-umbuton.ac.id/index.php/Prosa/article/view/4201>.
- Sugioyono. 2018. “Metode Penelitian.” : 68–86. <http://fekbis.repository.unbin.ac.id/id/eprint/151/>.
- Syamsunir, Muhammad Takdir, Suardi Zain, and Winda Sari. 2023. “Pengaruh Penggunaan Aplikasi Quizizz Siswa Kelas X Smk Muhammadiyah.” *Jurnal Teknologi Pendidikan* (01): 1–8.
- Tarkuni. 2021. “Pedagogi : Jurnal Pendidikan Dan Pembelajaran Pengaruh Bimbingan Belajar Terhadap Prestasi Belajar Siswa Kelas V Di Sekolah Dasar.” *Pedagogi: Jurnal Pendidikan dan Pembelajaran* 1(1): 18–23.
- Wahyuddin, N. R., Yanti, N. E., Arnas, R., & Hermansyah, S. (2024). Digital Literacy Integrated with Blended Learning in Improving EFL Students’ English Language Skills: A Lesson Learned from the Independent Campus Program. *Journal of Language and Literature Studies*, 4(4), 744-757. <https://doi.org/10.36312/jolls.v4i4.2351>
- Yekti Handayani, and Sukari Sukari. 2024. “Problematika Sistem Pendidikan Di Indonesia.” *Jurnal Pendidikan Dan Ilmu Sosial (Jupendis)* 3(1): 168–79.
- Zm, Raisa Amanda, Sarah Audry Lubis, Syahrani Maha, and Yuliana. 2023. “Peran Teknologi Informasi Dalam Dunia Pendidikan.” *Proceeding International Seminar on Islamic Studies* 4(1): 1133–39.