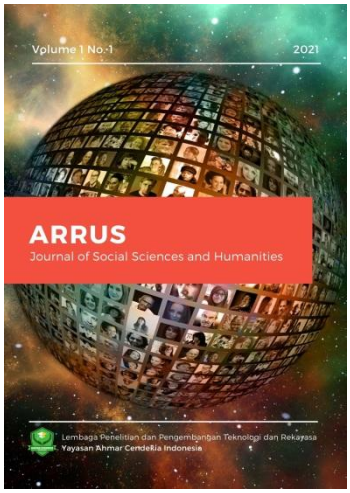
https://doi.org/10.35877/soshum5488

OPEN ACCESS

ISSN: 2776-7930 (Print) / 2807-3010 (Online)



*Corresponding author: Ratnawati, Educational Technology, Postgraduate Program, Universitas Negeri Makassar, Makassar, Indonesia

E-mail: ratnawatikedai06@gmail.com

RESEARCH ARTICLE

Developing a Learning Cycle 7E Design with Wordwall to Improve Students' Geography Learning Outcomes

Ratnawati*, Arismunanda ,& Nurhikmah

Educational Technology, Postgraduate Program, Universitas Negeri Makassar, Makassar, Indonesia

Abstract: This study developed and assessed a Learning Cycle 7E instructional design supported by Wordwall to improve Geography learning outcomes among Grade XI students at SMA Negeri 1 Sinjai. Research and development followed the ADDIE model, comprising analysis, design, development, implementation, and evaluation. The learning content focused on disaster mitigation and adaptation. The trial involved 36 students from class XI 1 selected through purposive sampling, while two experts validated the instructional design and supporting instruments. Data came from expert validation sheets, teacher and student questionnaires, classroom observations, interviews, documentation, and learning outcome tests. Quantitative descriptive analysis assessed validity, practicality, and effectiveness. The mean expert validation score reached 3.62 on a four-point scale, classified as very valid. Teacher responses reached 88.46%, and the implementation mean reached 1.67, indicating positive acceptance and full implementation. Student responses reached 92.6%, observed learning activity averaged 74.28%, and 33 of 36 students achieved the reported mastery criterion, giving a classical mastery percentage of 91.67%. The findings indicated that the developed design met the study's validity, practicality, and effectiveness criteria and supported active participation and understanding of disaster mitigation and adaptation in Geography learning.

Keywords: Geography, Instructional Design, Learning Cycle 7E, Learning Outcome, Wordwall

1. Introduction

Educational change requires learning activities that develop knowledge, skills, and students' participation. Education contributes to human resource development and supports learners in responding to social and technological change (Humiati & Budiarti, 2020; Puspitasari & Syafitri, 2025; Rizqi, 2023). Educational technology provides a systematic approach to designing, managing, and evaluating learning experiences. Its contribution depends on how teachers connect technology with learning objectives and classroom needs (Baikuna et al., 2023; Mukhid, 2023).

Instructional design gives teachers a framework for aligning objectives, content, activities, media, and assessment. Effective planning extends beyond presenting information. It also organises opportunities for exploration, discussion, and reflection (Julaeha et al., 2022; Ramdhan & Hakim, 2024). Teachers need sufficient readiness to use digital resources and adapt them to their learning environments (Hasyim et al., 2024). These considerations are relevant to Geography, where students learn relationships between environmental conditions, human activities, and disaster risk.

This open access article is distributed under a Creative Commons Attribution (CC-BY-NC) 4.0 license.

https://doi.org/10.35877/soshum5488

ISSN: 2776-7930 (Print) / 2807-3010 (Online)

Initial observations at SMA Negeri 1 Sinjai identified limited variation in Grade XI Geography instruction. Teachers generally used PowerPoint presentations and textbooks. Students described the lessons as monotonous and reported difficulty understanding the content. Observations and interviews therefore indicated a need for a more varied instructional design, particularly for disaster mitigation and adaptation. The proposed response combined structured learning activities with interactive digital media to encourage attention and participation.

Learning Cycle 7E offers seven connected stages: elicit, engage, explore, explain, elaborate, evaluate, and extend. These stages help students connect prior knowledge with new concepts, discuss their understanding, and apply concepts in different situations (Adilah & Budiharti, 2015; Ayuni et al., 2025). Previous studies have examined the model in relation to learning outcomes and critical thinking (Adi et al., 2024; Elvira & Vebrianto, 2021; Zuhra et al., 2017). Wordwall provides interactive activities that teachers can adapt to their subject matter. Studies included in the literature associate its use with motivation, classroom participation, and learning achievement (Arimbawa, 2021; Kusnadi & Azzahra, 2024).

Earlier work discussed Wordwall in Biology, elementary Science, and other school subjects (Andini et al., 2023; R. Lestari & Rohmani, 2024; Wahyuni et al., 2024). Research on Learning Cycle 7E also addressed mathematical problem solving and reasoning (P. Lestari & Rosdiana, 2018; Nurrohmah et al., 2024). The present study brings these approaches into Grade XI Geography through an instructional design focused on disaster mitigation and adaptation. It examines the quality of the developed design through expert validation, classroom implementation, user responses, learning activity, and achievement.

The study aimed to identify instructional needs at SMA Negeri 1 Sinjai, develop a Wordwall supported Learning Cycle 7E design, and assess its validity, practicality, and effectiveness. These aims correspond to the classroom problem and the quality criteria used in the development process. The instructional product integrates the seven learning stages with interactive activities and assessment for the selected Geography content.

2. Literature Review

2.1. Instructional Design and The ADDIE Model

Instructional design involves systematically planning, developing, implementing, and evaluating learning. It connects students' needs with clear objectives, suitable strategies, appropriate media, and assessment. Planning provides a basis for classroom implementation, while evaluation supplies information for improvement (Anggraeni & Nurazizah, 2024; Julaeha et al., 2022; Ramdhan & Hakim, 2024). Educational technology supports this process by helping teachers select and organise resources for specific learning purposes (Baikuna et al., 2023; Mukhid, 2023).

The ADDIE model comprises analysis, design, development, implementation, and evaluation. Analysis identifies the learning problem, student characteristics, and required content. Design establishes objectives, strategies, activities, and assessment. Development produces and refines the instructional materials. Implementation brings the product into classroom practice, and evaluation assesses its quality and learning results (Surjono, 2017). Research and development uses such procedures to produce an instructional product and examine its suitability (Okpatrioka, 2023). The use of ADDIE in developing an interactive self-learning module illustrates its application to the organisation of digital learning experiences (Jais et al., 2022).

Development quality involves more than the appearance of a digital product. Expert review examines the suitability of its content, design, and instruments before classroom use. Validation sheets provide structured criteria and space for suggestions to improve the product (Saputri et al., 2023). The development of educational media also requires instruments aligned with the aspects under evaluation (Angraini et al., 2023). In this study, validity, practicality, and effectiveness guided product development and assessment.

This open access article is distributed under a Creative Commons Attribution (CC-BY-NC) 4.0 license.

https://doi.org/10.35877/soshum5488

ISSN: 2776-7930 (Print) / 2807-3010 (Online)

2.2. Learning Cycle 7E

Learning Cycle 7E organises learning around students' active involvement in constructing and applying knowledge. Teachers facilitate the process through seven stages rather than relying only on explanations. The model connects prior understanding, investigation, explanation, application, assessment, and transfer (Adilah & Budiharti, 2015; Ayuni et al., 2025). Earlier research relates this sequence to learning achievement, reasoning, and critical thinking (Adi et al., 2024; Elvira & Vebrianto, 2021; Nurrohmah et al., 2024).

The elicit stage identifies students' prior knowledge through questions related to familiar experiences. Engage directs attention to the topic and encourages curiosity. Explore gives students opportunities to investigate problems, examine information, and discuss findings in small groups. Explain allows students to communicate their findings and connect them with the concepts introduced by the teacher (Adi et al., 2024; Adilah & Budiharti, 2015; Nurrohmah et al., 2024). These stages link the initial understanding of a problem with a more organised explanation.

Elaborate asks students to apply concepts and skills to relevant problems. Evaluate assesses understanding through formative and summative activities. Assessment can also take place during other stages to help teachers monitor learning (P. Lestari & Rosdiana, 2018). Extend encourages students to connect the concepts with additional situations. Studies on Learning Cycle 7E support its use as an alternative for improving students' involvement and subject understanding (Afrida et al., 2026; Zuhra et al., 2017). The approach requires adequate preparation, classroom management, and time for the learning sequence.

2.3. Wordwall and Geography learning

Wordwall is a web-based learning medium that offers educational activity templates, including quizzes, matching tasks, and random wheels. Teachers can adapt these activities to the lesson content and use them to invite responses and assess understanding (Silvia & Wirabrata, 2021). Its use in learning can provide varied practice and support student motivation (Arimbawa, 2021; Kusnadi & Azzahra, 2024; Samiadi, 2024). Research on game-based learning also discusses Wordwall as a resource for integrating interactive activities into instruction (Putra et al., 2024).

The instructional value of Wordwall depends on the relationship between the activity and its learning objective. Interactive tasks need clear content, accessible language, and suitable evaluation. Wordwall can serve as a learning assessment medium, while teachers need to consider access and preparation when using it (Nafian et al., 2024). Students' responses and learning achievement provide information about its classroom use (Andini et al., 2023; R. Lestari & Rohmani, 2024; Wahyuni et al., 2024).

Disaster mitigation concerns efforts to reduce disaster risk and its effects through structural measures, awareness, and preparedness (Fariza & Handayani, 2022). Adaptation concerns adjustments that reduce vulnerability and strengthen resilience (Priyono, 2024). These concepts offer contextual content for Geography learning. The present design links Learning Cycle 7E activities with Wordwall so that students can examine disaster-related problems, explain concepts, complete practice tasks, and apply their understanding to everyday situations.

3. Research Method and Materials

3.1. Research design and participants

The study used research and development at SMA Negeri 1 Sinjai, Sinjai Regency, South Sulawesi, Indonesia. Initial classroom observations took place in the second semester of 2025. The development followed ADDIE to produce and assess a Learning Cycle 7E instructional design supported by Wordwall (Okpatrioka, 2023; Surjono, 2017). The learning content covered disaster mitigation and adaptation for Grade XI.

This open access article is distributed under a Creative Commons Attribution (CC-BY-NC) 4.0 license.

https://doi.org/10.35877/soshum5488

ISSN: 2776-7930 (Print) / 2807-3010 (Online)

The Grade XI population comprised 108 students in three classes, each with 36 students. Purposive sampling selected class XI 1, with 36 students, for the product trial. Selection considered enrolment in Geography, active participation, attendance during assessment, and classroom conditions supporting digital learning. Defining the population and selecting appropriate participants form part of the research sampling process (Subhaktiyasa, 2024). Two experts reviewed the developed product, and the Geography teacher observed classroom implementation.

3.2. Development procedure

Analysis identified learning problems, content requirements, development tools, and product specifications through classroom observations and interviews with the teacher and students. Design established learning objectives, activities, media, and research instruments. Development produced the instructional design and submitted it to two validators. The researcher used their comments to refine the product before implementation.

Implementation applied elicit, engage, explore, explain, elaborate, evaluate, and extend to the selected content. Wordwall supported interactive activities, including Quiz, Match Up, Group Sort, Open the Box, Random Wheel, Labelled Diagram, and Exit Ticket. The researcher conducted the lessons, while the Geography teacher observed learning implementation and student activity. Evaluation used the implementation findings and feedback to refine the instructional product.

3.3. Instruments and data collection

Data collection used expert validation sheets, teacher and student questionnaires, classroom observation sheets, interviews, documentation, and learning outcome tests. Validation assessed the instructional design and supporting instruments using four-point ratings and expert suggestions (Angraini et al., 2023; Saputri et al., 2023). Teacher responses examined practicality, while student responses addressed interest, ease of use, and perceived support for understanding (Marlina & Sumaryoto, 2023).

Observations recorded implementation and student activity during the learning process. Observation sheets organise the collection of classroom information (Bela et al., 2021). Tests assessed students' cognitive understanding of Geography content. The research instruments included pretests and posttests, while the reported learning outcome results summarised mastery after implementation (Putri, 2022; Siregar et al., 2023). Documentation supplied supporting classroom records.

3.4. Data analysis

Quantitative descriptive analysis used mean scores and percentages. Expert ratings classified a mean from 3.5 to 4.0 as very valid. Practicality required positive teacher responses of at least 70% and an acceptable level of learning implementation. The implementation criteria classified a mean from 1.5 to 2.0 as fully implemented.

Effectiveness drew on student responses, observed activity, and learning mastery. Student responses from 85% to 100% were very positive, while activity from 60% to below 80% was good. Classical mastery represented the percentage of students meeting the mastery criterion reported in the learning outcome table. The product met the effectiveness criteria when responses were at least positive, activity was at least good, and learning outcomes were at least good.

4. Results and Discussion

4.1. Instructional needs and the developed design

Observations and interviews identified limited instructional variation and students' difficulty understanding Geography through textbook-centred lessons. The development responded with a Learning Cycle 7E design for disaster mitigation and adaptation. The product

This open access article is distributed under a Creative Commons Attribution (CC-BY-NC) 4.0 license.

https://doi.org/10.35877/soshum5488

ISSN: 2776-7930 (Print) / 2807-3010 (Online)

combined structured learning stages, contextual content, interactive Wordwall activities, and practice and assessment tasks.

The design encouraged students to recall prior understanding, explore problems, explain findings, apply concepts, evaluate their understanding, and extend learning to other contexts. This organisation reflects the active learning sequence discussed in earlier Learning Cycle 7E studies (Adi et al., 2024; Adilah & Budiharti, 2015; Ayuni et al., 2025; Zuhra et al., 2017). ADDIE connected the identified need with product design, expert review, implementation, and evaluation (Jais et al., 2022; Surjono, 2017).

4.2. Validity

Expert validation produced an overall mean of 3.62 out of 4.00, classified as very valid. All assessed components met the very valid category. The instructional design scored 3.51, and the student response questionnaire scored 3.76, the highest component rating. Table 1 presents the complete validation summary.

Table 1. Expert validation of the instructional design and research instruments

Component	Mean score	Category
Instructional design	3.51	Very valid
Teacher response questionnaire	3.62	Very valid
Student response questionnaire	3.76	Very valid
Student activity observation sheet	3.57	Very valid
Learning implementation observation sheet	3.68	Very valid
Learning outcome test	3.58	Very valid
Overall mean	3.62	Very valid

The findings supported the suitability of the instructional design and instruments for classroom use. Expert comments informed refinement before implementation. This procedure follows the role of validation in educational product development (Anggraeni & Nurazizah, 2024; Saputri et al., 2023). The design's organisation also accords with previous Learning Cycle 7E work that emphasises student involvement and opportunities to develop understanding (Afrida et al., 2026; Elvira & Vebrianto, 2021).

4.3. Practicality

The teacher response questionnaire produced a total score of 46 and a percentage of 88.46%, meeting the positive category. The responses covered instructional objectives, clarity, presentation, usability, student involvement, curriculum alignment, and technology use. Table 2 presents the ratings for each statement.

Table 2. Teacher responses to the Wordwall supported instructional design

No.	Statement	Score
1	Wordwall supports the achievement of learning objectives.	3
2	The Geography content uses clear and understandable language.	4
3	The medium presents content and contextual problems effectively.	4
4	Wordwall is easy to use.	4
5	The typeface and font size are appropriate.	4
6	Videos help clarify the content.	3
7	Wordwall encourages students to participate actively.	4
8	Wordwall helps students understand the learning content.	3
9	Wordwall helps the teacher conduct the learning process.	4
10	I used Wordwall for the first time in this learning process.	3
11	Wordwall has an attractive display.	4
12	The Wordwall content aligns with the applicable curriculum.	3
13	Wordwall supports technology-based learning at school.	3
Total		**46**
Percentage		**88.46%**

The implementation mean reached 1.67, classified as fully implemented. Introductory activities scored 1.67, core activities 1.50, and closing activities 1.83. The results in Table 3 indicate that the learning activities could follow the developed design.

This open access article is distributed under a Creative Commons Attribution (CC-BY-NC) 4.0 license.

https://doi.org/10.35877/soshum5488

ISSN: 2776-7930 (Print) / 2807-3010 (Online)

Table 3. Implementation of the instructional activities

Observed activity	Mean score	Category
Introductory activities	1.67	Fully implemented
Core activities	1.5	Fully implemented
Closing activities	1.83	Fully implemented
Overall mean	1.67	Fully implemented

Together, positive teacher responses and full implementation met the practicality criteria. Wordwall supplied varied activities within the organised learning sequence. The finding relates to previous work on Learning Cycle 7E supported by Wordwall and the classroom use of interactive activities (Kusnadi & Azzahra, 2024; Maritza et al., 2026; Nafian et al., 2024).

4.4. Effectiveness

The 36 participating students completed the response questionnaire after the lessons. Their average response reached 92.6%, classified as very positive. Responses were strongest for understandable language and an attractive display. Students also reported enthusiasm, ease of use, and support for understanding. Table 4 presents the item percentages.

Table 4. Student responses after the learning activities

No.	Statement	Percentage
1	Wordwall has an attractive display.	97
2	Wordwall makes me more enthusiastic about learning Geography.	94
3	Wordwall presents content and contextual problems effectively.	90
4	Wordwall is easy to use.	93
5	The typeface and font size are appropriate.	88
6	Videos help clarify the learning content.	93
7	The lessons help me understand and solve questions.	91
8	I would like to study the next topic using Wordwall.	92
9	I used Wordwall for the first time.	90
10	The language is easy to understand.	98
Mean percentage		92.6

Observed student activity averaged 74.28%, classified as good. Observations covered attention, responses, problem solving, group participation, discussion, presentation, cooperation, and reflection. Respect for classmates' opinions reached 88%, while responses to the initial stimulus reached 56%. Table 5 presents the activity profile recorded across two meetings.

Table 5. Observed student activity during classroom implementation

No.	Observed activity	Percentage
1	Listening to the teacher's explanation of learning objectives.	86
2	Listening to the review of prerequisite content.	78
3	Responding to the stimulus provided by the teacher.	56
4	Considering solutions to the problem presented.	67
5	Joining the assigned working groups.	76
6	Working with the assigned group.	73
7	Examining and discussing the problem under the teacher's guidance.	70
8	Collecting information to support problem solving.	75
9	Cooperating, exchanging ideas, and respecting different opinions.	67
10	Presenting group work to the class.	75
11	Respecting classmates' opinions.	88
12	Cooperating and exchanging ideas during group discussion.	78
13	Reflecting on the investigation and problem-solving process.	76
14	Listening and expressing opinions during learning evaluation.	75
Mean percentage		74.28

Learning outcome assessment showed that 33 students met the reported mastery threshold of 75, while three students remained below it. The classical mastery percentage reached 91.67%, classified as very good. Table 6 presents the frequencies and percentages.

This open access article is distributed under a Creative Commons Attribution (CC-BY-NC) 4.0 license.

https://doi.org/10.35877/soshum5488

ISSN: 2776-7930 (Print) / 2807-3010 (Online)

Table 6. Students' learning mastery after implementation

Mastery criterion	Category	Frequency	Percentage
< 75	Not mastered	3	8.33%
≥ 75	Mastered	33	91.67%

Very positive responses, good activity, and very good mastery met the study's effectiveness criteria. The findings supported the use of the developed design for the selected Geography content. The results relate to studies discussing Wordwall and learning achievement (Andini et al., 2023; R. Lestari & Rohmani, 2024; Wahyuni et al., 2024), and to the use of interactive media assessed through responses, activity, and learning outcomes (Marliani et al., 2024).

4.5. Instructional interpretation

Learning Cycle 7E provided the sequence for participation, while Wordwall supplied interactive practice and assessment. Students could connect prior knowledge with explanations and applications, consistent with the problem-solving and reasoning orientation of the model (P. Lestari & Rosdiana, 2018; Nurrohmah et al., 2024). The interactive activities also supported the motivation and participation described in previous Wordwall studies (Arimbawa, 2021; Putra et al., 2024; Samiadi, 2024; Silvia & Wirabrata, 2021).

The design's classroom use requires teacher preparation, suitable activities, and adequate access to digital resources (Hasyim et al., 2024; Nafian et al., 2024). For disaster mitigation and adaptation, contextual tasks connect learning with risk reduction and resilience (Fariza & Handayani, 2022; Priyono, 2024). The developed product therefore brings instructional structure and interactive media together for the learning need identified at SMA Negeri 1 Sinjai.

5. Conclusion

The ADDIE development process produced a Wordwall supported Learning Cycle 7E instructional design for Grade XI Geography at SMA Negeri 1 Sinjai. The design met the study's validity, practicality, and effectiveness criteria. Expert validation reached 3.62, teacher responses reached 88.46%, and implementation reached 1.67. Student responses reached 92.6%, activity averaged 74.28%, and 33 of 36 students achieved mastery. The developed design was suitable for learning disaster mitigation and adaptation. Teachers may use it as an instructional alternative, while further development can cover different content, educational levels, and wider trials.

Acknowledgment

The author acknowledges the participation of the Geography teacher and Grade XI students at SMA Negeri 1 Sinjai in the development trial and classroom observations.

References

Adi, E. P., Wedi, A., Soepriyanto, Y., Arifiansyah, M. D., & Firdaus, K. H. C. (2024). Pengaruh model 7E Learning Cycle dan keterampilan berpikir kreatif terhadap hasil belajar mahasiswa. Journal of Educational Technology Studies and Applied Research, 1(2), 1–5. https://doi.org/10.70125/jetsar.v1i2y2024a25

Adilah, D. N., & Budiharti, R. (2015). Model Learning Cycle 7E dalam pembelajaran IPA terpadu. Prosiding Seminar Nasional Fisika dan Pendidikan Fisika (SNFPF) Ke-6, 6(1), 212–217.

Afrida, R., Wicaksana, E. J., & Natalia, D. (2026). Pengaruh model Learning Cycle 7E terhadap hasil belajar Biologi murid pada materi ekosistem di sekolah menengah atas. Jurnal Ilmiah Profesi Pendidikan, 11(3), 2366–2374. https://doi.org/10.29303/jipp.v11i3.5179

Andini, W. T., Novita, L., & Riyanto. (2023). Implementasi media Wordwall untuk meningkatkan hasil belajar siswa SMA pada materi keanekaragaman hayati. Jurnal Jeumpa, 10(2), 312–321. https://doi.org/10.33059/jj.v10i2.8634

Anggraeni, S. A., & Nurazizah, S. (2024). Konsep dasar perencanaan pembelajaran. Karimah Tauhid, 3(5), 5548–5562. https://doi.org/10.30997/karimahtauhid.v3i5.13204

This open access article is distributed under a Creative Commons Attribution (CC-BY-NC) 4.0 license.

https://doi.org/10.35877/soshum5488

ISSN: 2776-7930 (Print) / 2807-3010 (Online)

Angraini, F., Erita, S., Oktafia, M., & Nasution, E. Y. P. (2023). Pengembangan media pembelajaran flipchart berbasis etnomatematika. Proximal: Jurnal Penelitian Matematika dan Pendidikan Matematika, 6(2), 196–207. https://doi.org/10.30605/proximal.v6i2.2586

Arimbawa, I. G. P. A. (2021). Penerapan Wordwall Game Quis berpadukan Classroom untuk meningkatkan motivasi dan prestasi belajar Biologi. Indonesian Journal of Educational Development, 2(2), 324–332. https://doi.org/10.5281/zenodo.5244716

Ayuni, H., Solihat, A. N., & Gumilar, G. (2025). Penerapan model pembelajaran Learning Cycle 7E berbantu media mind map dalam meningkatkan kemampuan berpikir kritis peserta didik. Jurnal Ilmiah Nusantara, 2(4), 371–383. https://doi.org/10.61722/jinu.v2i4.5078

Baikuna, L., Hidayatuloh, M. F., Rizal, M. F., Fitria, N., Anjelina, N. U., Mahendra, M. R. E., Marlina, M., & Nisak, A. Z. (2023). Peran teknologi pendidikan dalam pemanfaatan pembelajaran IPS. Jurnal Pendidikan dan Ilmu Sosial (Jupendis), 2(1), 102–115. https://doi.org/10.54066/jupendis.v2i1.1182

Bela, P. O., Utami, S., & Hermawan, A. (2021). Pengembangan media Tongtumon untuk menyajikan teks laporan hasil observasi pada siswa kelas VII. Patria Educational Journal (PEJ), 1(2), 96–106. https://doi.org/10.28926/pej.v1i2.86

Elvira, C., & Vebrianto, R. (2021). Pengaruh model pembelajaran Learning Cycle 7E terhadap keterampilan berpikir kritis peserta didik di SMPN 1 Kampar Kiri Tengah. Journal of Instructional Development Research, 2(2), 95–105. https://doi.org/10.61193/jidr.v2i2.17

Fariza, A., & Handayani, B. L. (2022). Tindakan struktural mitigasi bencana pemerintah di Indonesia. Jurnal Analisa Sosiologi, 11(2), 288–305. https://doi.org/10.20961/jas.v11i2.57282

Hasyim, N., Arismunandar, Butarbutar, R., Ramli, A. M., & Nur, I. D. M. N. (2024). Mind mapping of teachers' readiness for online teaching and learning: A reflective study of urban and suburban areas. Cogent Education, 11(1). https://doi.org/10.1080/2331186X.2023.2292864

Humiati, H., & Budiarti, D. (2020). Peran perguruan tinggi dalam meningkatkan sumber daya manusia. JMM: Jurnal Masyarakat Merdeka, 3(1), 13–24. https://doi.org/10.51213/jmm.v3i1.46

Jais, N. F. M., Ishak, S. A., & Yunus, M. M. (2022). Developing the self-learning interactive module using ADDIE model for Year 5 primary school students. International Journal of Academic Research in Progressive Education and Development, 11(1), 615–630. https://doi.org/10.6007/IJARPED/v11-i1/11919

Julaeha, S., Maky, M., & Ruswandi, U. (2022). Desain, pelaksanaan dan evaluasi pembelajaran pada sekolah menengah. Jurnal Dirosah Islamiyah, 4(2), 232–254. https://doi.org/10.47467/jdi.v4i2.909

Kusnadi, E., & Azzahra, S. A. (2024). Penggunaan media pembelajaran interaktif berbasis Wordwall dalam meningkatkan motivasi belajar siswa pada mata pelajaran PPKn di MA Al Ikhlash Padakembang Tasikmalaya. Jurnal Dimensi Pendidikan dan Pembelajaran, 12(2), 323–339. https://doi.org/10.24269/dpp.v12i2.9526

Lestari, P., & Rosdiana, R. (2018). Kemampuan pemecahan masalah matematis siswa melalui model pembelajaran Learning Cycle 7e dan Problem Based Learning. Mosharafa: Jurnal Pendidikan Matematika, 7(3), 425–432. https://doi.org/10.31980/mosharafa.v7i3.524

Lestari, R., & Rohmani. (2024). Analysis of the effectiveness of Wordwall media use on Science learning outcomes in elementary schools. IJORER: International Journal of Recent Educational Research, 5(4), 891–905. https://doi.org/10.46245/ijorer.v5i4.634

Maritza, W., Bahar, S., & Ardiansyah, A. N. (2026). Pengaruh model pembelajaran Learning Cycle 7E dengan menggunakan media Wordwall terhadap kemampuan berpikir kritis peserta didik pada mata pelajaran Geografi. DIAJAR: Jurnal Pendidikan dan Pembelajaran, 5(3), 1103–1109. https://doi.org/10.54259/diajar.v5i3.7638

Marliani, D. S., Nugraha, D. A., & Heryani, Y. (2024). Pengembangan media pembelajaran berbantuan iSpring Suite 11 untuk mengeksplorasi kemampuan numerasi dan koneksi matematis. Jurnal Kongruen, 3(2), 110–117. https://jurnal.unsil.ac.id/index.php/kongruen/article/view/12261

This open access article is distributed under a Creative Commons Attribution (CC-BY-NC) 4.0 license.

https://doi.org/10.35877/soshum5488

ISSN: 2776-7930 (Print) / 2807-3010 (Online)

Marlina, L., & Sumaryoto, S. (2023). Pengaruh persepsi atas media pembelajaran dan sikap belajar terhadap prestasi belajar Pendidikan Pancasila dan Kewarganegaraan. Herodotus: Jurnal Pendidikan IPS, 5(3), 292. https://doi.org/10.30998/herodotus.v5i3.12617

Mukhid, A. (2023). Desain teknologi dan inovasi pembelajaran dalam budaya organisasi di lembaga pendidikan. Pustaka Egaliter. https://repository.iainmadura.ac.id/904/1/DESAIN%20TEKNOLOGI%20DAN%20INOVASI%20PEMBELAJARAN.pdf

Nafian, R. K., Widayanti, U. A., & Rahmawati, I. (2024). Penggunaan media Wordwall sebagai evaluasi pembelajaran IPAS kelas IV SD Negeri 1 Gumul. Jurnal Teknologi Pendidikan dan Pembelajaran (JTPP), 1(4), 747–750.

Nurrohmah, M. S., Harisuddin, M. I., & Sadat, A. (2024). Penerapan model pembelajaran Learning Cycle 7E untuk meningkatkan kemampuan penalaran matematis siswa. JouME: Journal of Mathematics Education, 1(2). https://ejournal.universitasmandiri.ac.id/index.php/joume/article/view/129

Okpatrioka. (2023). Research and development (R&D) penelitian yang inovatif dalam pendidikan [Innovative research and development (R&D) in education]. Dharma Acariya Nusantara: Jurnal Pendidikan, Bahasa dan Budaya, 1(1), 86–100.

Priyono, K. D. (2024). Penguatan resiliensi komunitas berkelanjutan sebagai upaya adaptasi perubahan dalam pengurangan risiko bencana wilayah tropis. Universitas Muhammadiyah Surakarta.

Puspitasari, M. L., & Syafitri, D. A. R. (2025). Konsep dan teori dasar pendidikan serta transformasinya di era digital. Studia Ulumina: Jurnal Kajian Pendidikan, 2(1), 97–114.

Putra, L. D., Arlinsyah, N. D., Ridho, F. R., Syafiqa, A. N., & Annisa, K. (2024). Pemanfaatan Wordwall pada model Game Based Learning terhadap digitalisasi pendidikan sekolah dasar. Jurnal Dimensi Pendidikan dan Pembelajaran, 12(1), 81–95. https://doi.org/10.24269/dpp.v12i1.8749

Putri, H. (2022). Instrumen penilaian hasil pembelajaran kognitif pada tes uraian dan tes objektif. Jurnal Papeda, 4, 140.

Ramdhan, T. W., & Hakim, Z. (2024). Desain dan perencanaan pembelajaran. STAIDHI Press. https://jurnal.staidhi.com/index.php/pressstaidhi/article/download/343/257

Rizqi, M. (2023). Perubahan sosial budaya dalam modernisasi dan teknologi dipandang dari proses belajar. Jurnal Dinamika Sosial Budaya, 25(2), 233–239. https://doi.org/10.26623/jdsb.v25i4.7304

Samiadi, N. M. (2024). Meningkatkan hasil belajar siswa Agama Hindu kelas III menggunakan media Wordwall di SD Negeri 2 Wosu Kecamatan. Jurnal Riset Multidisiplin Edukasi, 1(1), 65–79. https://journal.hasbaedukasi.co.id/index.php/jurmie

Saputri, D., Mellisa, Hidayati, N., & Fauziah, N. (2023). Lembar validasi: Instrumen yang digunakan untuk menilai produk yang dikembangkan pada penelitian pengembangan bidang pendidikan. Biology and Education Journal, 3(2), 133–151.

Silvia, K. S., & Wirabrata, I. D. G. F. (2021). Meningkatkan kosakata anak usia dini melalui media Wordwall. Jurnal Pendidikan Anak Usia Dini Undiksha, 9(2), 261. https://doi.org/10.23887/paud.v9i2.36814

Siregar, N. A., Harahap, N. R., & Harahap, H. S. (2023). Hubungan antara pretest dan postest dengan hasil belajar siswa kelas VII B di MTs Alwashliyah Pantai Cermin. Edunomika, 7(1), 1–13.

Subhaktiyasa, P. G. (2024). Menentukan populasi dan sampel: Pendekatan metodologi penelitian kuantitatif dan kualitatif. Jurnal Ilmiah Profesi Pendidikan, 9(4), 2721–2731. https://doi.org/10.29303/jipp.v9i4.2657

Surjono, H. D. (2017). Multimedia pembelajaran interaktif: Konsep dan pengembangan. UNY Press.

Wahyuni, L. F., Rosdiana, S. R., & Mahbubah, K. (2024). The students' cognitive learning outcomes in organism classification subject through the Wordwall game application. ICoCSE Proceedings, 1, 64–71. https://jurnal.untirta.ac.id/index.php/ICoCSE/article/view/29999

This open access article is distributed under a Creative Commons Attribution (CC-BY-NC) 4.0 license.

https://doi.org/10.35877/soshum5488

ISSN: 2776-7930 (Print) / 2807-3010 (Online)

Zuhra, F., Hasan, M., & Safitri, R. (2017). Model pembelajaran Learning Cycle 7E berbantuan buku saku terhadap hasil belajar siswa SMA. Jurnal Pendidikan Sains Indonesia, 5(1), 134–139. https://jurnal.usk.ac.id/JPSI/article/view/8436

This open access article is distributed under a Creative Commons Attribution (CC-BY-NC) 4.0 license.