



## Digital Transformation Of Cultural Learning: The Effectiveness Of Interactive Multimedia In Strengthening The Pancasila Student Profile For Muhammadiyah Elementary School Teachers In Sleman

### Transformasi Digital Pembelajaran Budaya: Efektivitas Multimedia Interaktif Dalam Penguatan Profil Pelajar Pancasila Bagi Guru SD Muhammadiyah Sleman

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**Kata Kunci :**

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keberagaman budaya; Profil  
Pelajar Pancasila;  
Transformasi digital guru;  
Kurikulum Merdeka.

**ABSTRAK**

Kesulitan guru dalam mengintegrasikan teknologi digital untuk pembelajaran keberagaman budaya Indonesia menjadi hambatan utama dalam mewujudkan Profil Pelajar Pancasila di era Kurikulum Merdeka. Pengabdian ini bertujuan untuk mentransformasi kompetensi pedagogik digital guru melalui pelatihan dan pendampingan penggunaan multimedia interaktif berbasis keberagaman budaya Indonesia. Kegiatan dilaksanakan secara hybrid selama periode April-September 2024 melibatkan 25 guru kelas IV dan V dari 7 SD Muhammadiyah di Kapanewon Gamping, Sleman. Hasil evaluasi menunjukkan peningkatan kompetensi guru yang signifikan: (1) kemampuan teknis mengoperasikan multimedia interaktif meningkat dari skor rata-rata 45,6 (kategori kurang) menjadi 87,2 (kategori sangat baik); (2) keterampilan mengintegrasikan konten keberagaman budaya ke dalam pembelajaran Pancasila meningkat sebesar 78%; (3) seluruh peserta (100%) berhasil mengimplementasikan multimedia interaktif dalam pembelajaran di kelas masing-masing. Dampak jangka panjang terlihat dari inisiasi pembentukan komunitas praktisi digital dan rencana adopsi multimedia ke dalam sistem pembelajaran sekolah. Pelatihan ini membuktikan bahwa pendekatan transformatif berbasis praktik dan pendampingan intensif mampu mengatasi kesenjangan digital guru dan memperkuat identitas budaya sejak pendidikan dasar.

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**Keywords :**

*Interactive multimedia, cultural diversity; Pancasila Student Profile; Teacher digital transformation; Merdeka Curriculum.*

**ABSTRACT**

*Teachers' difficulties in integrating digital technology for learning about Indonesia's cultural diversity have become the main obstacle in realising the Pancasila Student Profile in the era of the Merdeka Curriculum. This service aims to transform teachers' digital pedagogical competencies through training and mentoring in the use of interactive multimedia based on Indonesia's cultural diversity. The activities were conducted in a hybrid format from April to September 2024, involving 25 fourth and fifth-grade teachers from 7 Muhammadiyah Elementary Schools in Kapanewon Gamping, Sleman. The evaluation results show a significant improvement in teacher competencies: (1) the technical ability to operate interactive multimedia increased from an average score of 45.6 (poor category) to 87.2 (very good category); (2) the skill to integrate cultural diversity content into Pancasila learning increased by 78%; (3) all participants (100%) successfully implemented interactive multimedia in their respective classroom learning. The long-term impact is evident from the initiation of the formation of a digital practitioner community and the plan to adopt multimedia into the school learning system. This training proves that a transformative approach based on practice and intensive mentoring can bridge the digital divide among teachers and strengthen cultural identity from primary education.*

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## INTRODUCTION

Elementary schools, as the foundation of character and knowledge education, have a strategic responsibility in shaping a generation that embodies the values of Pancasila and loves the cultural diversity of Indonesia. Teachers, as the primary facilitators, are required not only to master the material but also to create immersive and meaningful learning experiences through the use of educational technology (Purnanto & Mahardika, 2017). The Merdeka Curriculum explicitly requires the strengthening of the Pancasila Student Profile through learner-centred, contextual learning, and the use of digital technology (Hakim, et al., 2024).

However, the reality on the ground shows a critical digital gap between the demands of the curriculum and the capacity of teachers. Based on the initial assessment conducted on 25 teachers from SD Muhammadiyah under the PDM Gamping, the following facts were found: (1) 89% of teachers admitted they had never used interactive multimedia in teaching cultural diversity, (2) 94% of teachers experienced technical difficulties in operating interactive learning software, (3) 78% of teachers still relied on textbooks and lectures as the main methods for teaching cultural diversity, (4) the average digital literacy score of teachers was only 42.3 (on a scale of 0-100) based on the adapted instrument from the UNESCO ICT Competency Framework.

Interactive multimedia was chosen as the main solution because of its characteristics that can: (1) integrate text, images, audio, video, and animations into a cohesive whole; (2) provide interactive and participatory learning experiences; (3) facilitate self-paced learning according to students' speed; and (4) present authentic and engaging visualisations of Indonesia's cultural diversity (Katriani, 2014;Lubis, et al., 2023).

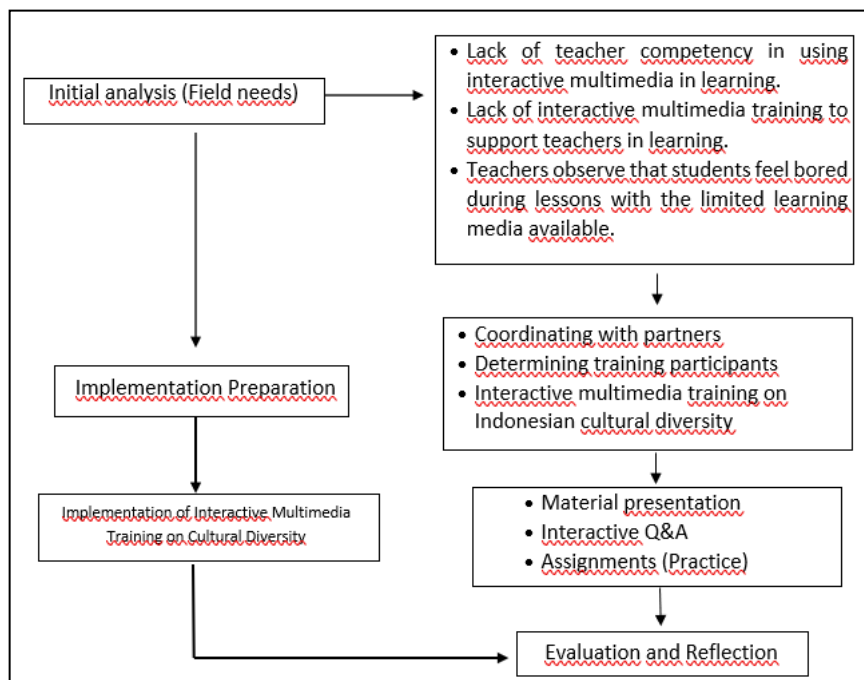
The novelty of this community service program lies in its transformative approach, which not only trains the use of technology but also emphasises the pedagogical restructuring of teachers in

integrating interactive multimedia with the Deep Learning approach. The Deep Learning approach mentioned in the latest version of the Merdeka Curriculum demands meaningful, in depth, and sustainable learning not just superficial memorisation.

The urgency of this intervention is further reinforced by the findings of Zuriah, et al, (2016) stated that that most teachers in Indonesia are not yet proficient in utilising ICT tools for innovative and contextual learning. Without systematic intervention, the gap between curriculum demands and teachers' capacities will widen, resulting in low learning quality and the failure to instill Pancasila character in the younger generation.

Even more concerning, an interview with the Chairman of the PDM Gamping Education Council revealed that the 7 relatively newly established schools face a double challenge: limited technological infrastructure and a lack of human resources capable of operating digital learning media. In fact, the Pancasila Education material on the diversity of Indonesian culture requires an approach that is not only informative but also affective so that students truly internalise the value of love for the homeland (Yulianto & Widodo, 2024). Considering the above, training is needed on the use of multimedia learning for Indonesian cultural diversity in Pancasila Education subjects, with content that aligns with the Pancasila student profile and incorporates Indonesian cultural diversity for students (child-centered).

The main problem faced by Muhammadiyah elementary school teachers in Sleman, DIY is the difficulty in using interactive multimedia in learning, especially at the elementary school level. It is hoped that training on the use of interactive multimedia learning for the diversity of Indonesian culture in Pancasila education for Muhammadiyah elementary school teachers in Sleman will enable them to deliver material content completely, systematically, and innovatively in learning activities. The necessary solution is how to improve and train teachers' skills in using interactive multimedia in learning, through intensive mentoring for practicing the use of interactive multimedia on Indonesia's cultural diversity for Muhammadiyah elementary school teachers in Sleman. As for the framework of the problem-solving process and stages, they are as follows in figure 1:



**Figure 1.** Process framework and stages of problem solving

This community service program is aimed at elementary school teachers from Muhammadiyah in Gamping sub-district, Sleman Regency, DIY, with a total of 28 participants. Each school must send a

minimum of 2-3 teachers to participate in this program. Based on the gap analysis above, the main problem formulation in this service is: How to improve the competence of SD Muhammadiyah Sleman teachers in using interactive multimedia based on the diversity of Indonesian culture to strengthen the Pancasila Student Profile through a transformative training and mentoring approach?

## IMPLEMENTATION METHOD

The method of implementing this service is systematically designed in three main stages with a participatory and transformative approach:

1) Phase 1: Preparation and Initial Assessment (March 2025)

- Coordination with partners (Majelis Dikdas PDM Gamping and 7 school principals) to align needs and schedules.
- Initial assessment of digital literacy and teachers' learning needs using standard instruments
- Development of training modules and interactive multimedia on the cultural diversity of Indonesia, validated by subject matter and media experts.
- Preparation of the hybrid platform (Zoom meetings, simple LMS, and registration website).

2) Phase 2: Hybrid Training (April 14 – May 31, 2025)

- Session 1: Conceptual Reinforcement (Online, 2 meetings)
- Introduction to the Merdeka Curriculum and Strengthening the Pancasila Student Profile
- The concept of interactive multimedia and its role in learning cultural diversity
- Demonstration of the interactive multimedia feature "Petualangan Nusantara"
- Session 2: Practice and Simulation (Offline, Full Day)
- Installation and navigation of interactive multimedia
- Simulation of multimedia use in a learning scenario (role-playing)
- Exercise in designing multimedia-integrated lesson plans.

3) Phase 3: Implementation and Evaluation Support (June – September 2025)

- Intensive online support through WhatsApp groups and weekly Zoom meetings
- Visits to the school (twice) to observe the implementation in the actual classroom
- Reflection and feedback on teacher learning practices
- Final evaluation through post-test, observation, and analysis of the RPP product.

The training was conducted in a hybrid format, inviting 4th and 5th-grade elementary school teachers from Gamping, Sleman Regency, DIY. The training materials include a presentation on Interactive Multimedia with Cultural Diversity Content, and Preparation and Plan for Offline Training in the Use of Interactive Multimedia based on Indonesian Cultural Diversity, which is conducted online. Offline, participants will simulate the use of Interactive Multimedia for Indonesian Cultural Diversity. It is hoped that the teachers present and attending the training can become trainers for other teachers in their schools. Instruments and Evaluation Techniques can be seen in Table 1, as follows:

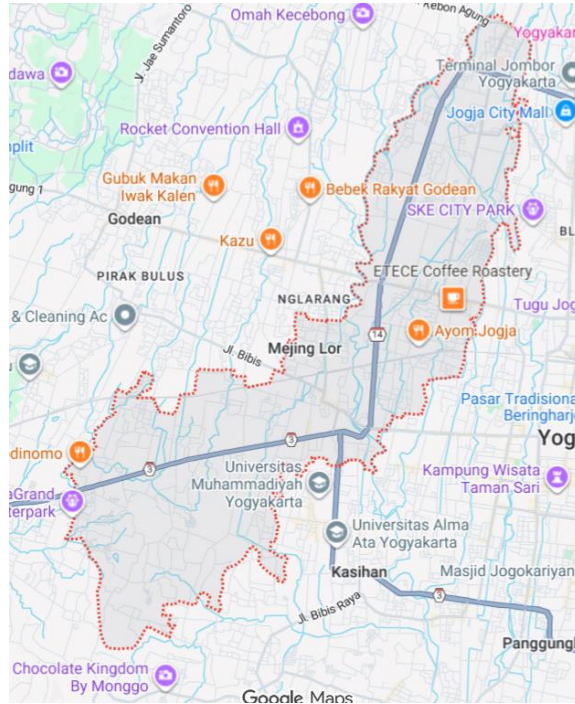
**Tabel 1.** Instruments and Evaluation Techniques

Evaluation Aspect	Instrument	Measurement Time
Conceptual knowledge	Pre-test and post-test (25 questions)	Beginning and end
Technical skills	Practice observation sheet (rubric)	During simulation & implementation
Pedagogical integration ability	Lesson plan analysis and learning videos	Post-mentoring
Satisfaction and reflection	Questionnaire and in-depth interviews	End of program

## RESULT AND DISCUSSION

### Results

The community service program with the theme "Digital Transformation of Cultural Learning: Training and Interactive Multimedia Assistance for Muhammadiyah Sleman Elementary School Teachers" has been carried out from June 30 to August 28, 2025, in a hybrid format. The offline activities took place at SD Muhammadiyah Ambarketawang 3 Gamping Sleman. as shown in Figure 2 below:



**Figure 2.** Map of Community Service Locations in Gamping subdistrict Sleman Regency, DIY

The organisers of this community service program (PkM) are a group of lecturers from Elementary School Education and the Dikdas PDM Council of Sleman Regency, DIY. The organisers prepared the venue facilities, then provided training materials and guidance for the training implementation to the participants. Participants then received training through this activity. The breakdown of the community service program activities can be seen in Table 2, below:

**Table 2.** Training Schedule for Teaching Material Preparation

Online via zoom			
No	Times	Agenda	Performers
Day : Monday, 30 June 2025			
1.	09.00 – 09.30	Opening and Welcome: Coordinator of PGSD UNY Service Providers Head of Dikdasmen DPC Gamping Sleman	Mc: Teacher.
2.	09.30 – 11.00	Initial Material Presentation	Moderator: Guru SD Muhammadiyah
3.	09.30 – 10.15	Material 1: Interactive Multimedia with Cultural Diversity Content.	Prof. Dr. Wuri Wuryandani, M.Pd.
4.	10.15 – 11.00	Material 2: Preparation and Plan for Offline Training in the Use of Interactive Multimedia Based on Indonesian Cultural Diversity	Dr. Hendra Prasetia, M.Pd
5.	11.00 – 11.30	QnA than Closing	

Offline

No.	Times	Agenda	Performers
Day: Thursday, 10 July 2025			
Community Service Activities at SD Muhammadiyah Ambarketawang 3 Gamping Sleman			
1.	08.30	Preparation for Muhammadiyah Elementary School in Gamping Sleman	
2.	09.00 – 09.30	Opening and remarks by the Head of Dikdasmen DPC Gamping Sleman and the team service coordinator	Mc: Teacher.
3.	09.30 – 12.00	Interactive Multimedia Simulation: Cultural Diversity in Indonesia Group 1	Dr. Hendra Prasetia, M.Pd., Prof. Dr. Kus Eddy, M.Si. and Drs. Suparlan, M.Pd.I.
		Interactive Multimedia Simulation: Cultural Diversity in Indonesia Group 2	Prof. Dr. Wuri Wuryandani, M.Pd. and Dr. Fathurrohman, M.Pd.
4.	12.00 – 13.00	Q n A, and Closing	

Online via zoom

No.	Times	Agenda	Performers
Thursday, 28 Agust 2025			
1.	13.00 – 14.30	Reflection on the Implementation of Interactive Multimedia Product Usage for Indonesian Cultural Diversity	Prof. Dr. E. Kus Eddy Sartono, M.Si. Prof. Dr. Wuri Wuryandani, M.Pd. Dr. Fathurrohman, M.Pd. Drs. Suparlan, M.Pd.I. Dr. Hendra Prasetia, M.Pd.
2.	14.30 – 15.00	Closing	Mc: Teacher

The initial activity of the organisers was to prepare by taking attendance through the website that had been shared. Then, after successfully entering, participants took the pre-test that had been provided. After that, the community service program activities were opened with a workshop contract. A workshop contract means that participants will follow the rules during the workshop. These rules contain instructions for the duration of the workshop. In the speaker's presentation, there are two topics that will be covered. The material consists of interactive multimedia loaded with cultural diversity, and preparation and plans for offline training in the use of interactive multimedia based on Indonesian cultural diversity, which will be implemented online. The offline material will be a simulation of the use of interactive multimedia for Indonesian cultural diversity. The workshop began with a pre-test, followed by material presentation, a question-and-answer session with the speaker, and a post-test. Result Improvement of Teacher Competence Table 3, the following:

**Table 3.** Results of Teacher Knowledge and Skills Pre-test and Post-test

Measured Aspects	Average Pre-test	Average Post-test	Improvement	Category
Knowledge of interactive multimedia concepts	48,2	89,5	41,3 poin (85,7%)	Very Signivicant
Understanding of integration with the Merdeka Curriculum	42,8	91,2	48,4 poin (113%)	Very Signivicant
Operational technical skills	45,6	87,2	41,6 poin (91,2%)	Very Signivicant

Ability to design integrated lesson plans	38,4	84,6	46,2 poin (120%)	Very Signivicant
Overall average	43,75	88,13	44,38 poin (101,4%)	Very Signivicant

The data above shows a very significant improvement in competence across all measured aspects. The highest improvement occurred in the ability to design multimedia-integrated lesson plans (120%), followed by understanding integration with the Merdeka Curriculum (113%). This indicates that the training not only impacts technical aspects but also transforms the pedagogical thinking of teachers.

Of the 25 participants, 100% successfully implemented interactive multimedia in their respective classroom learning. Some important qualitative findings:

Learning innovation: Teachers do not just use multimedia according to guidelines, but make creative adaptations such as:

- Combining with traditional local games
- Assigning students to create presentations based on multimedia content
- Using multimedia as a stimulus for intercultural discussions

Student response: Observations in 5 schools show high student enthusiasm. Students are more active in asking questions, showing curiosity about other regional cultures, and able to relate it to their personal experiences.

Collaborative impact: Three schools reported that trained teachers have started sharing knowledge with their peers, creating a multiplier effect.

The duration of the training is 4 months, starting with an introduction to the activity, followed by the delivery of material and then mentoring as participants apply the use of interactive multimedia on Indonesian cultural diversity in their school lessons. Here are some documentation of the implementation of the Interactive Multimedia Training on the Diversity of Indonesian Culture. In Figure 3, the following:



**Figure 3.** Implementation of Interactive Multimedia Training on Indonesian Cultural Diversity for Teachers at Muhammadiyah Elementary School in Sleman

The community service program through training on preparing teaching materials and student worksheets for Pancasila Education for teachers at Muhammadiyah Elementary Schools in Sleman Regency has been conducted for several months, both in person and with online mentoring using the Zoom application. It is hoped that through this community service training for Muhammadiyah Elementary School teachers in Sleman Regency, the competence of teachers at Muhammadiyah Elementary Schools in Sleman will continue to increase and develop.

### **Discussion**

The results of this service strengthen and expand the findings of previous research. If Purwaningsih, E., & Kanukisya, (2023) found that the use of technology can improve the quality of learning and nationalism, then this service shows the specific context of how culture-based interactive multimedia can address the challenges of learning in Indonesian schools.

Unlike conventional training that only focuses on knowledge transfer (Lubis et al., 2023), the transformative approach with intensive mentoring in this program has proven capable of producing deeper and more sustainable behavioural changes. This is in line with the findings of Bezliudnyi et al. (2022) that the success of educational technology adoption is greatly determined by the sustainability of post-training support.

The achievement of a 101.4% increase in competence far exceeds the average improvement in similar training reported in the literature (ranging from 30-50%). This success can be attributed to:

1. Hybrid design that accommodates different learning styles.
2. Intensive mentoring (4 months) that ensures the transfer from theory to practice.
3. Contextualising the material with the real needs of teachers in the field.
4. Institutional support from the Majelis Dikdas PDM Gamping.

It is hoped that after this training, teachers can utilise the interactive multimedia on Indonesian cultural diversity that they acquired during the training. This will be done after the briefing by the resource person is completed. Then, guidance was provided by giving them the opportunity to apply interactive multimedia on Indonesian cultural diversity in their school lessons. From this training, teachers can use interactive multimedia on Indonesian cultural diversity in Pancasila Education or other relevant subjects in their classrooms.

## **CONCLUSIONS AND SUGGESTIONS**

### **Conclusions**

The transformative training on the use of interactive multimedia based on Indonesia's cultural diversity for SD Muhammadiyah Sleman teachers successfully achieved all the set targets. Specifically: (1) The teachers' technical competence in operating interactive multimedia significantly increased from an average score of 45.6 (poor category) to 87.2 (very good category), exceeding the success target (>75). (2) The ability to integrate pedagogy increased by 120%, with all participants (100%) successfully developing lesson plans that integrate interactive multimedia and implementing them in their respective classes. (3) A community of digital practitioners has formed at the school cluster level, with the potential to become agents of sustainable change. (4) The impact on students is evident from the increase in active participation, enthusiasm for learning, and a deeper understanding of cultural diversity. This success proves that a training approach that combines conceptual reinforcement, hands-on practice, and intensive mentoring can bridge the digital divide among teachers and transform the quality of cultural learning in elementary schools.

### **Suggestions**

The recommendation for this training activity for Muhammadiyah Elementary School teachers in Gamping District, Sleman Regency, is to Teachers and Schools: (1) Developing multimedia content for other subjects (such as science, mathematics, language) with the same principles, (2) Forming

digital-based teacher working groups (KKG) to share best practices and learning resources, (3) Integrating the use of multimedia into the school's annual program. For the Majelis Dikdas PDM Sleman: (1) Adopting interactive multimedia developed into the regional Learning Management System (LMS) that can be accessed by all supported schools. This will ensure continuous access and facilitate regular content updates, (2) Making this training a model for a sustainable professional development program systematically implemented across all levels, (3) Facilitating collaborative research between teachers and academics to measure the long-term impact of multimedia use on student learning outcomes. For Future Researchers and Devotees: (1) Developing interactive multimedia with a Deep Learning approach that more explicitly integrates spiritual, social, and cognitive dimensions, (2) Conducting a longitudinal study to measure teacher competency retention and its sustained impact on students, (3) Exploring the integration of interactive multimedia with artificial intelligence (AI) for cultural learning personalisation

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