



Representing Pancasila Values through ‘CAKRA’: The Universitas Negeri Malang Mascot in SIPEJAR-Based Educational Videos

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Abstract: This study aims to design digital learning media in the form of 3D animated videos presenting the CAKRA mascot, which represents Malang State University (UM). This media will be uploaded on SIPEJAR as a supporting media for Pancasila Education. The research method used is Research and Development (R&D) based on the ADDIE model comprises the stages of analysis, design, development, implementation, and evaluation. It is articulated systematically at every stage by the outcome of learning needs analysis of both students and lecturers. Therefore, covered scripting and storyboarding for interactivity plus 3D animation production in Blender and Adobe Premiere Pro. The media developed was validated by subject matter experts, media experts, and language experts on a pilot test with 116 students. The results of the assessment prove that this learning media is effective at inspiration, raising motivation, and deepening students understanding as well as participation in learning about the values of Pancasila. Consequently, the use of educational mascots coming from cultural identity proves to be an innovative learning strategy for strengthening character education in digitalization.

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Introduction

The twenty-first century has transformed higher education through rapid digital advances further accelerated by the COVID-19 pandemic. Institutions of higher learning worldwide have implemented online and blended learning systems to ensure the continuation of the teaching and learning process while fulfilling student needs who are more receptive to digital technology. This change shows not only technological adaptation but also pedagogical reforms into more flexibility, interactivity, and learner centredness (Donkin & Rasmussen, 2021; Yusoff, 2023). Various studies prove motivation, retention, and learning achievement that multimedia integration can do in different fields of study (Fraile et al., 2020; Sulisworo et al., 2020; Xiao & Adnan, 2022). It must go hand in hand with the degree of flexibility and collaboration among graduates in a complicated digital environment as required by the workforce (Border et al., 2021; Liu et al., 2022). Universitas Negeri Malang is one of the pioneers in building pedagogical innovation through making SIPEJAR (Learning Management System) a part of institutional learning management systems supporting online and blended learning. Made as a piece in learning infrastructure, it has now evolved into an essential element found within the identity of UM integrating technology with reflective pedagogy (Wen et al., 2020). This platform offers access to learning flexibly to support collaboration for higher-order thinking skills development (Hong & Khan, 2022; Wang, 2021; Xu et al., 2021).



Studies conducted during and after the pandemic prove that quality can well be maintained with good learning platform designs while opening space for innovation in the long run, meaning education can be sustained (Sari & Oktaviani, 2021; Oyarinde & Komolafe, 2020). Apart from technical efficiency, SIPEJAR also strengthens the institutional image of UM and becomes a pilot trail of digital transformation in higher education in Indonesia. Pancasila Education, a mandatory subject for all Indonesian students, is one of the subjects that greatly benefits from this change. As the philosophical foundation of the state, Pancasila contains divinity, humanity, unity, democracy, and justice describe the character and moral development of citizens. Besides this fact, it must be noted that Pancasila education is delivered in an extremely theoretical and textual manner wherein values are not related to the real-life context of students (Samosir et al., 2024; Silva, 2023; Tucci et al., 2020). Hence their value has not yet sunk deep into the consciousness or emotion of most people who have learned about it. Whereas digital pedagogy may evoke active participation, visual comprehension, and contextual awareness which result in the motivation of students and their speaking abilities (Ismailova, 2023; Berduygina, 2020), this means that civic education must transform to what digital reality and socio-cultural complexities are today (Natal, 2021). UM responded to these challenges by presenting CAKRA through the SIPEJAR platform. CAKRA is the official university mascot, a digital learning medium for Pancasila Education via SIPEJAR. Created based on traditional Malang mask art, CAKRA stands for creativity and symbolizes the cultural identity and intellectual spirit of UM. Introduced in 2019 as a part of university branding, it now performs as a pedagogical agent whose responsibility is to narrate visually symbolic philosophical values in making them contextualized with students' experiences.

Different research proves that character-based education and mascots develop motivation, emotional involvement, and memory through the realization of real experiences from abstract ideas (Kim & Kim, 2023; Li, 2021; Subroto, 2023). In value-based learning, this emotional involvement is very important because moral reflection accompanies cognitive processes. Therefore, a bilingual 3D animated video with the theme of CAKRA combines cultural identity, institutional image, and digital pedagogy, localizing educational values while at the same time adapting them to global technological trends (Denbel, 2023). This study follows the constructivist learning theory, which postulates that knowledge is actively gained through interaction and reflection within some context or experiences. Learning will be meaningful if new knowledge can be related to existing understanding, and this occurs through active involvement of learners. There is from such a framework that the synergy between CAKRA and SIPEJAR can also be understood on the one hand, while CAKRA acts as a visual and emotional mediator tying philosophical values with cultural identity, on the other hand, SIPEJAR creates an area for collaboration in reflection and sharing meaning. The combination brings to life the very principles of constructivism by turning Pancasila learning from mere abstract discourse into lively relevant experiential process. Despite extensive research on digital learning, few studies connect educational technology with national values and cultural identity, particularly in Pancasila education. Prior works have explored digital comics for civic learning (Nurfadilah & Nugraha, 2023), digital literacy to strengthen civic disposition (Susanto & Kurniawan, 2024), and sociocultural-based pedagogy to support the Pancasila Student Profile (Widiastuti & Widodo, 2024). However, these studies have not integrated institutional branding and local culture into digital civic education. Addressing this gap, the present study develops and evaluates a 3D-animated CAKRA video integrated into SIPEJAR to enhance Pancasila Education through a constructivist approach. This innovation



unites digital media, cultural identity, and institutional vision within a coherent pedagogical model that promotes meaningful, value-based, and culturally grounded digital learning in the era of educational transformation.

Research Method

This study used a Research and Development (R&D) approach based on the ADDIE model. The five steps included Analysis, Design, Development, Implementation, and Evaluation. The model was selected because though it is systematic, it offers flexibility to suit the development of digital learning media by creating a 3D animated video of the CAKRA mascot. This will be incorporated within SIPEJAR as part of a learning medium for Pancasila Education. The study began with an appraisal of the course documents, especially the Semester Learning Plan (RPS). It further appraised the lecture activities observed. From this process, potency assessment toward the CAKRA character to be implemented as a culture-based learning agent was formed. The results of this analysis became input for the next design and development phase, which will be in the form of script and storyboard preparation for reflective learning scenarios based on Pancasila values. Blender Software created 3D animation to achieve the best possible visual quality, while video editing was performed in Adobe Premiere Pro. This media product, before going into implementation, passed an expert validation phase with the participation of subject matter experts, media experts, and language experts. Validation was done for the appropriateness of content, presentation, and language used in learning media. Once deemed fit, it was run on a pilot basis with 116 students taking the Pancasila Education course. In this phase of implementation, reflection activities and the internalization of Pancasila values based on CAKRA animated video facilitated by lecturers were undertaken. Data were collected by means of a questionnaire and observation sheet on media feasibility, student activity, and responses to the initial learning process. The data obtained were analyzed separately to find out advantages and disadvantages as well as further development that can still be applied. The validity of the data was checked by source triangulation and method triangulation. Besides making sure the study followed ethical rules by telling and getting consent from people before gathering data, the end results showed that the created product met the teaching and cultural fit standards and showed first success in helping students better understand Pancasila values.

Result and Discussion

Rethinking Pancasila Education for Today's Digital World

Pancasila education must be restructured to maintain its relevance to the characteristics of 21st century students, amidst the ongoing transformation of higher education in the digital era. This restructuring must be carried out digitally, by designing a values-based curriculum and implementing a more interactive and reflective pedagogy. Pancasila education should not be taught as a means of cognitively acquiring knowledge; rather, it should be positioned as a character-building process that instills moral and nationalistic values, as well as in students' daily practices. The push for multimodal and interactive learning is driven by the fact that instructional delivery remains static. More active media, such as flipbook-based modules or learning videos, can stimulate emotional and reflective participation from students. From a constructivist perspective, students not only receive information but also construct meaning through experience and reflection (social interaction) (Putri et al., 2024). Therefore, symbols, narratives, and characters in learning media can serve as a link between ideological content and meaningful learning experiences based on local



culture and collective identity, an effort to visually and narratively internalize Pancasila values in modern educational delivery (Widiastuti et al., 2024). Several studies support the integration of value theory and technology-based learning practices to better align with the digital generation within the framework of pedagogical renewal in Indonesian higher education (Rahmadillah et al., 2025; Bahari et al., 2024). This aligns with the notion that character education values in the era of Industrial Revolution 4.0 and Society 5.0 must be grounded in Pancasila as a philosophical foundation for building a national character that is adaptive to ever-evolving technological advances while simultaneously maintaining national identity. The practical recontextualization of Pancasila education requires the design of more dynamic teaching materials supported by multimodal visual content and metaphorical graphics (for example, the symbol of balance, which can be interpreted as the fifth principle), traditional music, and local narratives with quizzes, reflections, and branching storylines so that students can become active participants in their own ways in internalizing Pancasila values. At the institutional level, theories and policies in various studies emphasize the urgency of instilling Pancasila values in digitalized education and character-building programs, responding to the currents of globalization and digital culture (Bramastia & Sadjarto, 2021; Susilawati et al., 2025). Therefore, a recontextualization approach based on constructivism and semiotics in digital learning environments is highly relevant for updating the way Pancasila is taught and internalized, particularly through the interpretation of its values in students' daily lives in this contemporary digital era.

CAKRA as Pedagogical Innovation: Design, Implementation, and Implications

CAKRA visually represents changing a mascot symbol into a pedagogical agent. It has been designed based on Pancasila values, which include curiosity, empathy, ethics, and depth of culture, reinterpreted in costumes, icons, and symbolic colors to make their meaning more appropriate to digital learning environments. This notion is also discussed at length in the literature describing how Pancasila values can be merged into character-oriented education amidst digitalization and globalization, whereby the philosophy of Pancasila becomes the very basis of character education, plus national identity instilled within students' ordinary day to day activities. The storyline of CAKRA is improvable to be part of modular content about resolving conflicts that would force students to reflect on the values of Pancasila critically. This modular design, by which narratives lead to solutions in social issues, has much congruence with constructivist recommendations and narrative-driven instructional design from Indonesian research concerning experiential learning, video-based learning, and using digital media for meaning making (Suhendi et al., 2021; Nuryadi & Widiatmaka, 2023; Sari et al., 2023). The bilingual videos, contextual humor, and relevant local cultural elements in CAKRA raise the strength of cultural relevance to students at the level of material sense. This learning strategy directly responds to findings that multimedia can enhance the internalization of values through visual and narrative representation. Visual symbols, traditional music, and graphic metaphors are crucial elements in translating ideological abstractions into concrete practices. Various studies have emphasized how cultural symbols and visual metaphors increasingly give meaning to Pancasila values in this digital era. These elements concretize meanings previously difficult to grasp in modern times (Sari et al., 2023; Widiastuti et al., 2024; Sinaga et al., 2024). This model represents the integration of digital transformation, educational digitization, and the instillation of Pancasila values as a challenge for Society 5.0 and the Industrial Revolution 4.0 in Indonesia. Essentially, CAKRA as a semiotic design that combines constructivism, digital technology, and cultural narrative demonstrates how Pancasila values can be formulated logically through a combination of media collaboration,

narrative, and interaction, making value learning an experience that is understandable to today's students.

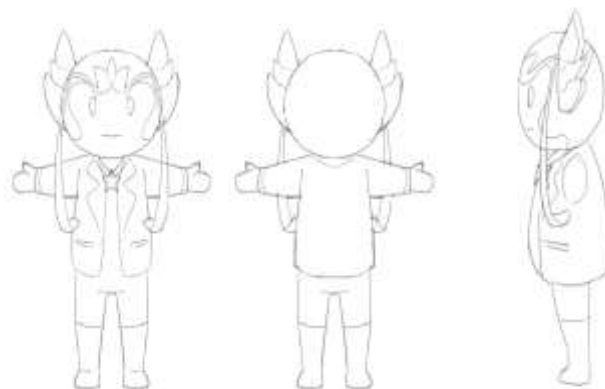


Figure 1. Preliminary design of CAKRA

CAKRA evolved through structured steps that transformed the character from a conceptual sketch into a fully functional digital learning product. Every stage contributed specific outputs that built on what had been achieved in the previous stage, thus ensuring coherence in a process that merged creative design with educational applicability. It started at the preliminary design stage (Figure 1). By then, CAKRA was nothing more than a conceptual visualization. The goal here was to define the basic nature of who or what Cakra is supposed to be, as well as her symbolic features, clothes, and general persona that matched the intended pedagogical purpose. The preliminary design acted as a clear plan to join abstract notions with the technical needs for 3D modeling. A well defined concept was necessary to maintain consistency and steer the rest of the development in the right direction.

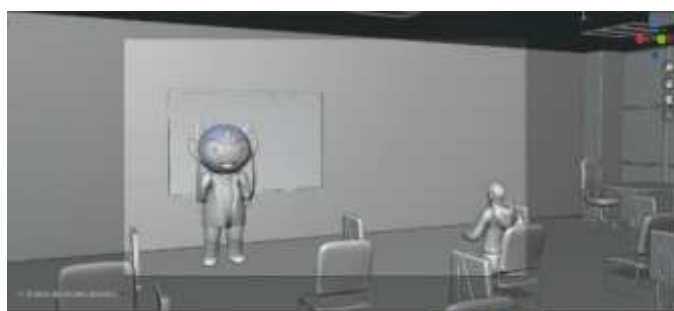


Figure 2. Scene layout of CAKRA

The next step is modeling (Figure 2). With the help of Blender, polygonal modeling techniques were used to build up the character in three dimensions. It covered physical geometry creation for CAKRA, comprising costume details, supporting attributes, and a body structure. Modeling introduced an actual manipulable digital object from a two dimensional concept. Precision here was also required because that would be what quality later steps depended on, such as rigging, animation, and rendering. By completing this stage work, CAKRA assumed a recognizable three dimensional form that would go on to establish technical ground for animation.

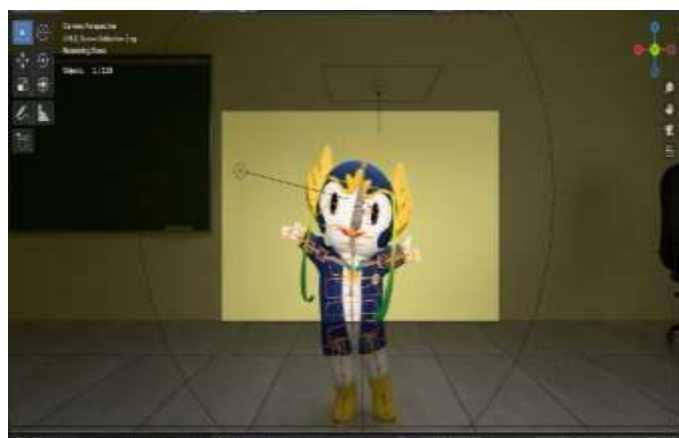


Figure 3. Modeling stage of CAKRA

The third step was the final visualization stage (see Figure 3). At this point, CAKRA was brought for rigging, which gave the internal skeletal structure essential for movement. It was later animated to function within a virtual classroom setup. There were also desks and chairs, whiteboards, and other figures to keep the learners glued by simulating a real learning environment. Lighting, camera perspectives, and scene composition were finally set to give a full animation. The rendered output was then published on YouTube as a final media artifact, whereby at this very stage, CAKRA moved beyond being just a prototype to become a polished product ready for educational use.



Figure 4. Embedded video of CAKRA in Sipejar

The last stage was integration with Sipejar, the institutional LMS (Learning Management System) (Figure 4). This shows the practical use of CAKRA in a real digital learning environment. By putting the last video directly into Sipejar, students and teachers access the character on the platform they are used to working on for their coursework. This made sure that CAKRA was not just finished technically but also part of the instructional setting. CAKRA became a real part of teaching and learning instead of just a separate digital item. The three experts comprised a Pancasila Education expert, a media design expert, and a language expert, who validated by appraisal based on standard aspects involving accuracy of the material used, quality in visual and technical design, clarity of the language used, and appropriateness of the product. The material expert rated it at 92% saying that the content of



the video greatly represents the two main dimensions of Pancasila which are its philosophical dimension and civic dimension while maintaining its relevance to the lives of students. The media expert rated it 90% between the flow of animation, character appeal, and symbolic cultural power delivered through the CAKRA mascot. He also noted that background music transitions should be made more smoothly to become in tune with the atmosphere of scenes. Meanwhile, linguists rated it 92% because they believe that the use of two languages in clear and easy to understand presentations makes this video more inclusive and easier for a wider audience to understand.

Table 1. Expert Validation Results of CAKRA-based 3D Animation

Aspect Evaluated	Expert 1 (Content)	Expert 2 (Media)	Expert 3 (Language)	Average (%)	Category
Content accuracy & relevance	92%	–	–	92%	Very Feasible
Visual & technical quality	–	90%	–	90%	Very Feasible
Language clarity & accessibility	–	–	92%	92%	Very Feasible
Overall Average	92%	90%	92%	91.3%	Very Feasible

After expert validation, a limited trial was carried out on 116 students who attended the Pancasila Education course at Malang State University. The assessment of this media by students was done through a structured questionnaire which mainly pivoted on three major indicators motivation, understanding, and participation in learning. Results of data collection have come out encouraging. 89% of students said animated media increased their learning motivation. Some students said the animated CAKRA mascot character made them feel more emotionally connected to the material presented. On comprehension, 86% of students assessed that video helped them understand Pancasila values more deeply, particularly the values of social justice and unity that were clearly visualized through the animated storyline. 88% of students stated that they could participate more actively in the learning process because it is easier to remember and relate the concepts of Pancasila which were delivered through attractive and easily understandable visual media. Also open-ended student responses were consistent with these quantitative results. Many believed that the existence of the CAKRA mascot gave a certain cultural identity to learning thus, material would not be so abstract but rather concrete and contextualized in everyday life. Moreover, some students expressed their narration in bilingual (Indonesian and English) as a method through which they had understood important terms and concepts in both languages. the results attest that the CAKRA-based 3D animated video is pedagogically sound, visually attractive, and culturally appropriate. It fulfills technical qualifications to become a learning medium tool and supplies character education strengthening in digital era.

Table 2. Limited Trial Results with 116 Students

Dimension Assessed	Positive (n/%)	Neutral (n/%)	Negative (n/%)	Interpretation
Motivation	103 (89%)	9 (8%)	4 (3%)	Very Positive
Comprehension	100 (86%)	12 (10%)	4 (4%)	Very Positive
Participation	102 (88%)	10 (9%)	4 (3%)	Very Positive
Overall Average	102 (87.7%)	10 (9%)	4 (3.3%)	Very Effective



Bringing Together SIPEJAR and CAKRA Mascot Using Digital Tools for Pancasila

This demonstrates the novelty developed by the Universitas Negeri Malang (UM) in officially combining its online-based learning platform, SIPEJAR, with the institutional mascot, CAKRA, which is also a digital means toward strengthening Pancasila Education learning. SIPEJAR shall be repositioned not to serve as a mere technical platform but rather an important component of academic branding and pedagogical identity at UM. In this respect, it forms part of that much bigger digital ecosystem which is vital toward providing interactive student-centered learning in higher education institutions of today (Wang, 2021; Xu et al., 2021). Under this framework CAKRA- officially launched in 2019 is the spirit of creativity, education, and innovation at UM. This mascot articulates local cultural heritage as a learning presentation visually and digitally. The integration between SIPEJAR and CAKRA builds not only an institutional identity, but also meaningful learning grounded on national values. The Pancasila Education course has, by all accounts, a strategic role in the internalization of philosophical and civic values for new nuggets of leadership nationals. Based on the constructivist learning theoretical framework, this study put great emphasis on active and reflective learning through experience and interaction. Previous research has also indicated that character-based interactive media could bridge the gap between abstract concepts and student understanding (Maryani, 2023; Ma, 2021). CAKRA based 3D animated video was developed, implemented in SIPEJAR (Student Learning Approach) at 16 meeting lectures. The results found that this media got a feasibility assessment from experts with an average value of 91.3% "very suitable" to be used in learning and students' assessment as well as the high positive response of students by 89% increasing motivation to learn, 86% increasing understanding, and 88% feeling more active when learning using this media. This is in line with what Li (2021) and Subroto (2023) found, that mascot-based learning media can improve learning outcomes in the cognitive and affective domains. As the official Learning Management System (LMS) at Malang State University, SIPEJAR becomes very accessible to implement flexibility support of multimedia interactive learning both in a pandemic situation and post-pandemic COVID-19 (Sari & Oktaviani, 2021; Oyarinde & Komolafe, 2020). The integration of CAKRA into SIPEJAR is not just a matter of technical efficiency but also as a form of narrative application of constructivist philosophy, which relates thoughts to real events by visualizing narratives (Denbel, 2023). The CAKRA mascot becomes both a cultural agent and at the same time a pedagogical agent. It is based on traditional Malang mask art but is re-presented in digital modernity so that it can raise student engagement and reflection as well as raise cultural awareness in learning. It works between institutional identity, digital tech, and teaching changes shows that Pancasila values can be taught and felt in a real way in the setting of modern higher learning (Achmad et al., 2021; Kim & Kim, 2023).

Conclusion

The SIPEJAR–CAKRA is a real instance of how digital transformation can rejuvenate Pancasila learning at the college level. What once started as an adaptive response to the challenge of online teaching and learning has now transformed into a framework for digital cultural identity-based learning. By way of story, icon, and media engagement, CAKRA comes forth as a lively teaching agent ready to join the Pancasila thought with real-life events of learners. Study proves that CAKRA's being inside SIPEJAR has rightly raised the interest, grasp, and thoughtful skill of users who tap it. This medium is a learning channel that escorts



students from civic concepts to the practical application of Pancasila values such that they will be able to appreciate the meaning of Pancasila value in its context and become participants in the learning process. Following a constructivist model, this design makes sure that the learning process focuses on information transfer and emphasizes active collaboration and self-reflection in building meaning. Pedagogically, this study highlights the role of local culture-based digital media in facilitating the process of civic and character education. This shows how the national philosophy, can be creatively delivered through a technology-based learning approach relevant to the needs of people's lives in this digital era. At the institutional level, therefore SIPEJAR and CAKRA would strength identity for Malang State University as a Pioneer of Educational Innovations also describes Harmonization Synergy between Moral Education and Digital Transformation. The Integration offers a model of sustainable value-based learning which could be benchmarked for Indonesian future higher education systems.

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