



THE KACA BENGGALA MODEL: REVITALIZING JAVANESE LANGUAGE LEARNING THROUGH REFLECTIVE DIGITAL PEDAGOGY

Setya Amrih Prasaja¹, Suwarna¹, Muhajirin¹

¹Master of Javanese Language Education, Universitas Negeri Yogyakarta, Indonesia

Corresponding Author: setyaamrih.2023@student.uny.ac.id

DOI: 10.15294/piwulang.v14i1.42247

Accepted: February 26th 2026 Approved: June 23th 2026 Published: June 30th 2026

Abstract

The rapid expansion of digital communication and the growing dominance of global languages have posed significant challenges to the preservation and development of regional languages, including Javanese. This study examines the implementation of the Kaca Benggala Model as a reflective digital pedagogy designed to strengthen students' awareness of Javanese language identity through systematic comparison with foreign languages. Employing a descriptive qualitative approach grounded in reflective educational practice, the study analyzes learning activities implemented at SMAN 2 Wonosobo, SMAN 1 Sanden, and SMAN 2 Bantul involving 808 students across all grade levels. Data were collected through classroom observations, learning documentation, teacher reflective records, and students' reflective responses. Data analysis followed qualitative procedures: data reduction, data display, and conclusion drawing. The findings indicate that the Kaca Benggala Model enhanced students' language awareness, increased learning motivation, strengthened linguistic identity, and transformed perceptions of Javanese language from a traditional school subject into a contemporary cultural resource capable of coexisting with global languages within digital environments. Students demonstrated increased appreciation for the Javanese language and script through the production of digital content. The study concludes that reflective comparison between local and global languages represents an effective pedagogical strategy for regional language revitalization.

Keywords: Kaca Benggala Model, reflective digital pedagogy, language identity, Javanese language, regional language revitalization.

© 2026 Universitas Negeri Semarang

P-ISSN 2252-6307 E-ISSN 2714-867X

INTRODUCTION

Language functions not only as a medium of communication but also as a repository of collective memory, cultural values, and social identity. Through language, communities transmit knowledge, traditions, social norms, and cultural heritage across generations. In multilingual societies such as Indonesia, regional languages play an important role in maintaining cultural continuity and strengthening local identity. Among these regional languages, Javanese occupies a strategic position because it is

spoken by millions of people and embodies a rich system of linguistic etiquette, literary traditions, and script heritage that reflect the cultural values of Javanese society (Fishman, 1991; Joseph, 2004; Andriyanti, 2019).

Despite its cultural significance, the position of Javanese language within contemporary educational settings faces considerable challenges. The rapid expansion of globalization, digital communication, and transnational cultural flows has increased students' exposure to dominant global languages

such as English, Korean, Arabic, and other international languages (Sholahunnisa & Insani, 2024). These languages are frequently associated with technological advancement, global mobility, modern lifestyles, and educational opportunities (Kholiq et al., 2024). In contrast, Javanese is often perceived by younger generations as traditional, conventional, and less relevant to contemporary communication practices (Insani & Kholiq, 2025). Such perceptions may weaken students' motivation to learn Javanese and reduce their appreciation of local linguistic heritage (Andriyanti, 2019; Santosa et al., 2026; UNESCO, 2025).

These challenges were also observed during the implementation of Javanese language learning in SMAN 2 Wonosobo, SMAN 1 Sanden, and SMAN 2 Bantul. Preliminary classroom observations and teacher reflective records indicated that many students demonstrated greater enthusiasm when discussing foreign languages, international popular culture, and digital content than when engaging with Javanese language materials. Students frequently perceived foreign languages as symbols of modernity and global relevance, while Javanese was often associated with traditional cultural practices and school obligations. Similar tendencies have been reported in previous studies indicating that younger generations increasingly favor dominant national and international languages in both face-to-face and digital communication environments, resulting in reduced opportunities for meaningful engagement with regional languages and their associated cultural practices (Aprilia & Firmansyah, 2024; Sulistyowati et al., 2025).

The challenge of Javanese language learning is not limited to language *use* alone.

Previous studies have shown that many students experience difficulties in understanding Javanese script and applying *undha usuk basa Jawa* appropriately in communication contexts (Setiawan & Insani, 2025). These difficulties often contribute to reduced confidence and participation in Javanese language learning. Furthermore, conventional instructional approaches frequently emphasize linguistic knowledge and technical mastery without sufficiently addressing students' language attitudes, cultural awareness, and perceptions regarding the relevance of Javanese language in contemporary society (Iryani & Sukoyo, 2023; Nadhiroh, 2021).

Various efforts have been undertaken to improve Javanese language learning through the integration of technology and innovative instructional media. *Previous* studies demonstrated that digital learning resources, interactive multimedia, website-based applications, and technology-supported instruction can increase students' engagement and learning outcomes (Chang & Hung, 2019; Shadiev, 2020). Within the context of Javanese language education, Surur et al. (2023) found that interactive multimedia-based learning media significantly improved students' achievement in learning Javanese script. Similarly, Musyarofah et al. (2025) reported that technology-integrated learning environments encouraged active participation and creativity in Javanese language learning.

Although these studies provide important contributions, most existing research focuses primarily on instructional media development, literacy enhancement, technological integration, or classroom learning techniques. Relatively limited attention has been devoted to pedagogical models that explicitly address students' language

perceptions, linguistic identity formation, and cultural awareness within multilingual digital environments. Consequently, a significant gap remains regarding how educational practices can transform students' attitudes toward Javanese language while simultaneously utilizing digital environments as spaces for cultural reflection and identity construction.

The present study argues that one of the most significant challenges in regional language revitalization is not merely technological accessibility or instructional delivery but the way students perceive local languages in relation to globally dominant languages. The Kaca Benggala Model is grounded in three complementary theoretical traditions: reflective learning, technology-enhanced language learning, and language identity theory.

Reflective learning emphasizes the importance of examining experiences in order to construct deeper understanding and meaningful knowledge. Through reflection, learners become active participants in interpreting their own learning processes rather than passive recipients of information (Farrel, 2020). Reflection enables learners to connect prior experiences with new knowledge, thereby promoting critical thinking, self-awareness, and deeper learning (Ming et al., 2025).

Technology-enhanced language learning (TELL) highlights the capacity of digital environments to facilitate interaction, participation, and authentic communication experiences. Technology serves not only as a medium of instruction but also as a space where learners encounter linguistic and cultural diversity through collaborative, multimodal, and intercultural communication practices (Chapelle, 2009). Digital learning environments enable

learners to engage actively with language in meaningful contexts, thereby supporting both language development and intercultural competence (Godwin-Jones, 2018; Dooly & O'Dowd, 2018).

Language identity theory emphasizes that language functions as a marker of belonging, cultural continuity, and social identity. Individuals construct and negotiate their identities through language practices, making language an essential component of cultural affiliation and community membership (Norton, 2013; Joseph, 2004). Educational experiences that strengthen awareness of linguistic heritage contribute to cultural preservation, intergenerational language transmission, and the development of positive linguistic identities (Fishman, 1991; UNESCO, 2025). Within the context of Javanese language education, linguistic identity extends beyond communicative competence and encompasses cultural values, social etiquette, collective memory, and script traditions. The preservation of Javanese language practices, including the use of *undha usuk basa Jawa* and Javanese script, contributes to the maintenance of cultural continuity across generations. Language identity therefore becomes closely connected with learners' awareness of their cultural heritage and their willingness to actively participate in preserving local linguistic resources within contemporary communication environments. Educational experiences that encourage learners to critically examine the role of Javanese alongside global languages may strengthen positive language attitudes and support regional language maintenance in the digital era.

By integrating these three perspectives, the Kaca Benggala Model positions foreign languages as reflective mirrors through which

learners can critically examine the role of Javanese language and script within contemporary communication environments.

To address these challenges, the Kaca Benggala Model was developed as a reflective digital pedagogy designed to strengthen students' awareness of Javanese language identity through systematic comparison with foreign languages encountered in digital environments. The term Kaca Benggala, which literally means "mirror," refers to a reflective learning process in which students examine Javanese language and script through comparison with other linguistic systems. Rather than positioning foreign languages as competitors, the model utilizes them as reflective instruments that help learners recognize the uniqueness, value, and contemporary relevance of their own linguistic heritage.

The Kaca Benggala Model was selected because it integrates three complementary dimensions that are rarely combined within regional language education: reflective learning, multilingual comparison, and digital participation. Unlike conventional language instruction that primarily emphasizes grammar mastery, script literacy, or content delivery, the model encourages learners to critically examine linguistic diversity, evaluate their own perceptions toward language, and reconstruct cultural meaning through digital content production. Through this process, students are expected not only to learn Javanese language but also to develop a stronger sense of ownership, appreciation, and cultural identity associated with the language.

Operationally, the Kaca Benggala Model consists of five interconnected stages: exposure, comparison, reflection, reconstruction, and appreciation. Learners are first exposed to

multilingual digital content before comparing linguistic systems, scripts, and cultural representations. They subsequently engage in reflective activities to evaluate language perceptions and cultural meanings. These reflections are then reconstructed into digital products utilizing Javanese language and script, followed by appreciation activities that encourage cultural recognition and collaborative learning. Through this process, foreign languages function as reflective mirrors that help learners develop deeper awareness of their own linguistic heritage.

Through these stages, foreign languages function as reflective mirrors that enable students to develop deeper awareness of their own linguistic heritage.

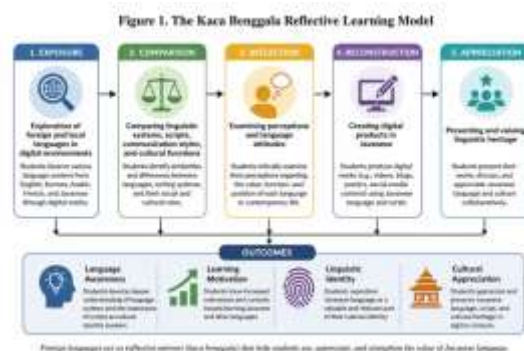


Figure 1. Conceptual Framework of The Kaca Benggala Reflective Digital Pedagogy Model

The model begins with students' exposure to foreign and local languages in digital environments. Through comparison and reflection, learners critically examine their perceptions of language, script, and cultural value. These reflections are subsequently reconstructed into digital products using Javanese language and script, followed by appreciation activities that encourage cultural recognition and collaborative learning. The process ultimately contributes to the development of language awareness, learning

motivation, linguistic identity, and cultural appreciation.

The novelty of this study lies in the development and implementation of the Kaca Benggala Model as a reflective digital pedagogy for regional language revitalization. Unlike previous studies that concentrated on technological media, instructional materials, or classroom techniques, this study positions foreign languages as reflective mirrors that facilitate language awareness, identity formation, and cultural appreciation. The model therefore extends current discussions on technology-enhanced language learning by emphasizing the role of digital environments as spaces for reflection and linguistic identity development rather than merely instructional delivery.

Accordingly, this study aims to examine the implementation of the Kaca Benggala Model in revitalizing Javanese language learning through reflective digital pedagogy. Specifically, the study investigates how reflective comparison between local and global languages influences students’ language awareness, learning motivation, linguistic identity, and appreciation of Javanese language and script. The findings are expected to contribute both theoretically and practically to the development of innovative strategies for regional language revitalization within contemporary digital environments.

METHODS

This study employed a descriptive qualitative approach grounded in reflective educational practice. The research presents a retrospective reflective analysis of the implementation of the Kaca Benggala Model across three different educational contexts. The model was implemented by the researcher during his service

as a Javanese language teacher at SMAN 2 Wonosobo (2008/2009 academic year), SMAN 1 Sanden (2011/2012 academic year), and SMAN 2 Bantul (2017/2018 academic year). These implementations are reinterpreted through contemporary perspectives on reflective pedagogy, language identity, and technology-enhanced language learning.

Table 1. Research Contexts and Implementation Sites

School	Academic Year	Researcher's Role	Learning Focus	Number of Students
SMAN 2 Wonosobo	2008/2009	Javanese Language Teacher	Initial implementation	360
SMAN 1 Sanden	2011/2012	Javanese Language Teacher	Model refinement	192
SMAN 2 Bantul	2017/2018	Javanese Language Teacher	Digital adaptation	256

The implementation was conducted in three senior high schools located in different regions of Central Java and the Special Region of Yogyakarta. The sites included SMAN 2 Wonosobo during the 2008/2009 academic year, SMAN 1 Sanden during the 2011/2012 academic year, and SMAN 2 Bantul during the 2017/2018 academic year. The selection of these sites was based on the researcher’s direct involvement as a Javanese language teacher responsible for designing, implementing, documenting, and reflecting upon the learning process. Although implemented in different periods, the three sites shared similar challenges related to students’ perceptions of Javanese language learning within increasingly globalized and digitally mediated environments.

The Kaca Benggala Model was implemented through five interconnected stages. First, students were exposed to various forms of digital content produced in foreign languages and Javanese. Second, they compared linguistic structures, writing systems, communication styles, and cultural representations embedded within the languages. Third, students engaged in reflective activities aimed at examining their perceptions regarding language value, relevance, and identity. Fourth, they reconstructed their understanding by producing digital content utilizing Javanese language and script. Finally, students presented and discussed their products as part of an appreciation process intended to strengthen awareness of linguistic and cultural heritage.

Data were collected through classroom observations, learning documentation, teacher reflective records, and students' reflective responses. Classroom observations were conducted to identify patterns of participation, interaction, engagement, and responses that emerged during the implementation of the Kaca Benggala Model. Observation data were particularly useful for examining how students interacted with multilingual learning materials and participated in reflective discussions.

Learning documentation was collected to provide tangible evidence of the learning process and student participation. The documentation included lesson plans, learning materials, screenshots of digital learning activities, students' multimedia projects, website-based learning products, and short films developed during the implementation. These documents were used to support the interpretation of observational findings and to demonstrate how students applied Javanese language and script in digital contexts.

Teacher reflective records were utilized to capture pedagogical observations, instructional decisions, classroom dynamics, and emerging learning patterns throughout the implementation process. Reflective records enabled the researcher to document contextual factors that were not always visible through direct observation and provided insight into the development of students' attitudes toward Javanese language learning.

Students' reflective responses were collected to explore learners' perceptions, experiences, and interpretations regarding the learning activities. These reflections served as an important source of qualitative evidence for understanding changes in language awareness, learning motivation, cultural appreciation, and linguistic identity resulting from participation in the Kaca Benggala learning process.

Data analysis followed the interactive model proposed by Miles, Huberman, and Saldaña, consisting of data reduction, data display, and conclusion drawing. Data reduction involved selecting and organizing observation notes, reflective responses, and documentation relevant to the research objectives. Data display was conducted through thematic categorization of findings related to language awareness, learning motivation, linguistic identity, and cultural appreciation. Finally, conclusions were drawn through continuous interpretation of patterns emerging from multiple data sources.

To enhance trustworthiness, data triangulation was conducted by comparing evidence obtained from classroom observations, learning documentation, teacher reflective records, and students' reflective responses. The use of multiple sources allowed the researcher to verify emerging themes and strengthen the credibility of the findings.

RESULTS AND DISCUSSION

The implementation of the Kaca Benggala Model revealed four interrelated outcomes: (1) increased language awareness, (2) enhanced learning motivation, (3) the repositioning of Javanese language and script within students' perspectives, and (4) the emergence of digital environments as reflective spaces for linguistic identity development. These findings indicate that reflective comparison between local and global languages can contribute to regional language revitalization beyond conventional language instruction.

Initial Student Perceptions of Javanese Language

Classroom observations conducted prior to the implementation revealed a recurring tendency among students to associate foreign languages with modernity, technological advancement, and global relevance. Conversely, Javanese language was frequently perceived as traditional, academically demanding, and less applicable to contemporary communication contexts. Similar perceptions emerged in teacher reflective records across the three participating schools.

Table 2. Students' Initial Perceptions

Aspect	Javanese	Foreign language
Image	Traditional	Modern
Digital	Limited	Extensive
Presence		
Learning motivation	Moderate-Low	High
Writing System	Difficult	Attractive
Lifestyle	Conventional	Trendy
Association		

These findings suggest that students' attitudes toward language are influenced not only by linguistic competence but also by broader sociocultural meanings attached to language use.

Foreign languages were frequently connected with aspirations for global participation, while Javanese tended to be positioned within cultural and ceremonial domains. Such perceptions are consistent with Andriyanti (2019), who reported that younger generations often associate dominant languages with modern identity and socioeconomic mobility. Likewise, UNESCO (2025) emphasizes that globalization may weaken learners' attachment to local languages when educational experiences fail to demonstrate their contemporary relevance.

The existence of these perceptions provided the rationale for implementing the Kaca Benggala Model. Rather than opposing foreign languages, the model encouraged students to use them as reflective references through which they could critically examine the value and significance of Javanese language and script.

Implementation of the Kaca Benggala Model

Learning activities began with the exploration of digital content produced in English, Korean, Arabic, French, and Javanese. Students examined similarities and differences among linguistic systems, scripts, communication patterns, and cultural functions. Reflective discussions encouraged learners to analyze why certain languages appeared more visible within digital environments and whether such visibility necessarily reflected linguistic superiority.

Following reflection, students developed digital products using Javanese language. One prominent activity involved the production of short films demonstrating the application of *undha usuk basa Jawa* in everyday communication contexts. Students also incorporated Javanese script typography into film titles and credits, thereby integrating traditional writing systems into contemporary digital production.



Figure 2. Documentation of Kaca Benggala Learning Activities Across Three Educational Contexts.

The figure presents selected learning activities conducted during the implementation of the Kaca Benggala Model at SMAN 2 Wonosobo (2008/2009), SMAN 1 Sanden (2011/2012), and SMAN 2 Bantul (2017/2018). The documentation illustrates students' participation in reflective learning activities, multilingual comparison, and digital content production designed to strengthen awareness of Javanese language and cultural identity.

Language Awareness and Script Consciousness

One of the most significant outcomes of the implementation was the development of students' language awareness. Through comparison activities involving English, Korean, Arabic, French, and Javanese, students began to recognize that every language possesses distinctive linguistic features, cultural functions, and writing traditions.

A student reflected:

"I just realized that learning Javanese by comparing it with foreign languages such as English, French, and Korean helps me understand linguistic contexts and the important role of script as an essential component of language."

This reflection indicates the emergence of metalinguistic awareness, namely the ability to reflect critically on language systems and their cultural meanings. Students no longer viewed Javanese script merely as a difficult writing system but as an integral component of cultural identity and historical continuity.

This finding supports the argument that language revitalization should involve both language use and script awareness. Adilazuarda et al. (2025) emphasize that indigenous scripts represent important cultural resources that contribute to linguistic preservation. Similarly, Iryani and Sukoyo (2023) found that meaningful engagement with Javanese script requires learning experiences that connect script literacy with learners' cognitive and cultural understanding. The present study extends these findings by demonstrating that multilingual comparison can serve as an effective strategy for strengthening script consciousness and language awareness simultaneously.

Learning Motivation Through Reflective Comparison

Reflective comparison also contributed to increased motivation. The implementation of the Kaca Benggala Model also contributed to increased student motivation. Classroom observations indicated greater participation during comparative discussions and digital content production activities than during conventional language instruction. Students actively engaged in examining similarities and differences among languages and demonstrated enthusiasm when presenting their reflections.

One participant stated:

"Studying language through mirroring with other languages makes me more

enthusiastic about learning new languages with all their unique characteristics.”

This response suggests that motivation emerged from curiosity and reflection rather than external academic requirements. Students perceived language learning as an exploratory process that allowed them to discover relationships among linguistic systems and cultural traditions.

These findings are consistent with reflective learning theory, which argues that meaningful learning occurs when learners actively reinterpret their experiences and construct personal understanding (Farrell, 2020). The results also support previous studies demonstrating that innovative and interactive learning environments contribute positively to student motivation (Hanafi et al., 2024; Rumsari & Mahmudah, 2021). However, unlike previous studies that focused primarily on instructional techniques, the Kaca Benggala Model generated motivation through identity-oriented reflection and cultural engagement.

Repositioning Javanese Language and Script

Perhaps the most important finding was the transformation of students' *perceptions* regarding the position of Javanese language in contemporary society.

One participant explained:

“Previously, something seemed missing in the way Javanese language and script were taught. Through this method, I discovered something interesting: learning Javanese language and script can be perceived similarly to learning Korean, Arabic, or Hindi, which continue to use their own writing systems.”



Figure 3. Student Short Film Production Using Undha Usuk Basa Jawa

The figure shows students producing short films utilizing undha usuk Jawa and incorporating Javanese script in digital media. The activity represents the reconstruction stage of the Kaca Benggala Model, where reflective understanding is transformed into contemporary cultural products.

This statement demonstrates a process of symbolic repositioning. Students began to perceive Javanese not as a marginalized local language but as a legitimate linguistic system comparable to globally recognized languages that maintain strong script traditions and cultural identities.

The finding is particularly important because language revitalization depends not only on language competence but also on positive language attitudes. Norton (2013) argues that language learning is closely connected to identity construction, while Fishman (1991) emphasizes that sustainable language maintenance requires speakers to perceive their language as socially meaningful and culturally valuable. The present study suggests that reflective comparison can

contribute to such repositioning by enabling learners to recognize that linguistic prestige is socially constructed rather than inherently attached to particular languages.

Technology as Reflective Space

Another important finding concerns the role of technology within the learning process. The digital environment functioned not merely as a medium for delivering instructional content but as a reflective space where students examined language, culture, and identity.

Students utilized digital platforms to access multilingual content, analyze language use, compare writing systems, and produce digital artifacts such as short films, multimedia presentations, and online learning materials. Through these activities, technology became a medium for cultural reflection and linguistic exploration.

This finding expands current understandings of technology-enhanced language learning. Previous studies generally emphasize the role of technology in improving learning effectiveness, accessibility, and engagement (Chapelle, 2009; Shadiev, 2020). Similarly, Surur et al. (2023) demonstrated that multimedia-based learning media improved students' achievement in learning Javanese script. The present study extends this perspective by showing that digital environments may also facilitate identity formation and cultural revitalization.

Rather than serving solely as instructional tools, digital technologies provided opportunities for students to negotiate meanings, reconstruct cultural knowledge, and develop stronger connections with Javanese language and script. This finding aligns with Godwin-Jones (2018), who argues that digital environments can foster intercultural awareness and meaningful

language engagement when learners actively participate in authentic communication practices.

Pedagogical Implications

The findings suggest that regional language education should move beyond grammar-centered and transmission-oriented instruction. Contemporary language revitalization requires pedagogical approaches capable of addressing learners' perceptions, language attitudes, and cultural identities.

The Kaca Benggala Model demonstrates that reflective comparison between local and global languages can strengthen language awareness, increase learning motivation, and reposition regional languages within contemporary digital culture. By transforming foreign languages from perceived competitors into reflective mirrors, the model creates opportunities for learners to appreciate their own linguistic heritage while remaining engaged with global communication practices.

For educators, the findings indicate that technology should be viewed not only as an instructional medium but also as a reflective environment that supports cultural learning and identity development. For policymakers, the study offers an alternative framework for regional language revitalization that integrates language learning, digital participation, and cultural preservation within a single pedagogical approach.

Tabel 3. Key Outcomes of the Kaca Benggala Model

Outcome	Evidence from Student Reflection	Educational Significance
Language Awareness	Recognition of the relationship between language and script	Strengthens understanding of linguistic diversity and cultural heritage

Outcome	Evidence from Student Reflection	Educational Significance
Learning Motivation	Increased enthusiasm toward learning languages	Enhances engagement and participation in Javanese language learning
Linguistic Identity	Repositioning Javanese alongside globally recognized languages	Strengthens cultural identity and positive language attitudes

An important contribution of the Kaca Benggala Model lies in its reconceptualization of technology as a reflective environment rather than solely an instructional medium. Much of the existing technology-enhanced language learning literature focuses on efficiency, accessibility, and learning outcomes. In contrast, the present model demonstrates that digital environments can facilitate identity construction and cultural reflection. Through digital content analysis, online interaction, and multimedia production, students engaged in a process of meaning-making that connected local linguistic heritage with contemporary communication practices. This perspective expands current understandings of technology-enhanced language learning by emphasizing the role of digital environments in supporting language awareness and cultural revitalization.

The findings also resonate with recent developments in Javanese language education that emphasize the integration of technology, pedagogy, and cultural content. Studies published in *Piwulang: Jurnal Pendidikan Bahasa Jawa* indicate that technology-supported learning environments can enhance student engagement and improve learning effectiveness. For example, the implementation of teaching modules based on the TPACK approach in *tembang macapat* learning

demonstrated that technology integration encourages creativity, active participation, and more adaptive learning experiences. However, most existing innovations primarily focus on instructional effectiveness and media development. The Kaca Benggala Model extends this perspective by positioning digital environments as spaces for cultural reflection and identity negotiation. Through multimedia production, digital storytelling, and online interaction, students not only learn linguistic forms but also reinterpret the cultural meanings embedded within Javanese language practices. Consequently, technology functions as a medium for cultural revitalization rather than merely a tool for content delivery, thereby contributing to more sustainable regional language preservation in the digital era (Musyarofah et al., 2025).

Beyond enhancing instructional quality, digital environments may also contribute to the long-term revitalization of regional languages. Recent studies in Javanese language education have increasingly explored digital learning media, website-based applications, and innovative instructional resources as strategies to maintain student interest in learning Javanese language and script. These developments suggest that technology can serve as a bridge between traditional cultural knowledge and contemporary communication practices. The Kaca Benggala Model advances this direction by encouraging students not only to access digital content but also to critically reflect upon and reproduce cultural meanings through digital participation. In this regard, digital technology becomes an ecosystem for sustaining linguistic heritage and strengthening cultural identity among younger generations.

Unlike conventional technology-enhanced learning approaches emphasizing instructional efficiency, the Kaca Benggala Model utilized technology to facilitate reflection, identity formation, and cultural appreciation.

The findings suggest that regional language education should move beyond grammar-centered instruction and embrace approaches that encourage students to compare local languages with globally recognized languages. Such comparison does not diminish local languages; rather, it enables students to appreciate their linguistic heritage within broader cultural contexts. For teachers, the model demonstrates that technology can serve as a medium for identity development and cultural revitalization rather than solely as a tool for content delivery.

CONCLUSION

This study aimed to examine the implementation of the Kaca Benggala Model as a reflective digital pedagogy for revitalizing Javanese language learning in secondary education. The findings demonstrate that reflective comparison between local and global languages can contribute significantly to the development of language awareness, learning motivation, linguistic identity, and cultural appreciation among students.

The implementation of the Kaca Benggala Model enabled students to reinterpret the position of Javanese language and script within contemporary society. Rather than perceiving Javanese as a traditional and academically demanding subject, students increasingly recognized it as a living cultural resource that remains relevant within multilingual and digitally mediated environments. The

findings further indicate that digital technology can function not only as an instructional medium but also as a reflective space where learners negotiate meaning, construct identity, and engage critically with linguistic diversity.

The study contributes to regional language education by introducing the Kaca Benggala Model as an alternative pedagogical framework that combines reflective learning, multilingual comparison, and digital participation. Unlike conventional approaches that primarily emphasize language mastery, the model encourages learners to develop awareness of the cultural and symbolic value of language within broader social contexts.

The findings imply that efforts to revitalize regional languages should extend beyond curriculum content and technological integration alone. Educational institutions, teachers, and policymakers need to adopt pedagogical approaches that strengthen learners' linguistic identity and cultural attachment while remaining responsive to contemporary digital realities. In this regard, the Kaca Benggala Model offers a potential framework for supporting the preservation and revitalization of regional languages in multilingual societies.

LIMITATIONS AND FUTURE RESEARCH

Several limitations should be acknowledged. First, the study relied primarily on classroom observations, learning documentation, teacher reflective records, and students' reflective responses. Although these data sources provided rich qualitative insights, the findings were not supported by quantitative measures of language attitudes, motivation, or learning outcomes. Second, the analysis was based on a retrospective interpretation of educational practices

implemented across three different academic periods (2008/2009, 2011/2012, and 2017/2018). Consequently, the findings should be interpreted within the historical, technological, and educational contexts in which the implementations occurred.

Future research may employ mixed-method or longitudinal designs to examine the long-term effects of the Kaca Benggala Model on language maintenance, linguistic identity, and cultural engagement. Further studies may also incorporate interviews, focus group discussions, attitude scales, and comparative classroom experiments to strengthen empirical validation. In addition, the model may be adapted and tested in other regional language contexts to explore its applicability as a broader framework for language revitalization in multilingual and digitally connected societies.

The implementation is presented as a retrospective reflective case study, allowing historical educational practices to be reinterpreted using contemporary theoretical perspectives on digital pedagogy, language identity, and regional language revitalization.

ACKNOWLEDGEMENTS

The authors express sincere gratitude to the principals, teachers, and students of SMAN 2 Wonosobo, SMAN 1 Sanden, and SMAN 2 Bantul for their participation and support during the implementation of the Kaca Benggala learning activities. Appreciation is also extended to colleagues in the Master of Javanese Language Education Program, Universitas Negeri Yogyakarta, for their academic support and constructive feedback.

REFERENCES

- Adilazuarda, M. F., Wijanarko, M. I., Susanto, L., Nur'aini, K., Wijaya, D. T., & Aji, A. F. (2025). NusaAksara: A multimodal and multilingual benchmark for preserving Indonesian indigenous scripts. In *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)* (pp. 28371–28401). Association for Computational Linguistics.
- Andriyanti, E. (2019). Language shift among Javanese youth and their perception of local and national identities. *GEMA Online Journal of Language Studies*, 19(3), 109-124.
- Aprilia, B., & Firmansyah. (2024). The role of intergenerational communication in local language preservation: A case of Javanese language maintenance in Sidorejo Hamlet. *Communicative: Jurnal Komunikasi dan Penyiaran Islam*, 5(2), 76–81.
- Chang, M. M., & Hung, H. T. (2019). Effects of technology-enhanced language learning on second language acquisition: A meta-analysis. *Educational Technology & Society*, 22(4), 1-17.
- Chapelle, C.A. (2009). The relationship between second language acquisition theory and computer-assisted language learning. *The Modern Language Journal*, 93 (s1), 741-753.
- Dooly, M., & O'Dowd, R. (2018). *In this together: Teachers' experiences with transnational, telecollaborative language learning projects*. Peter Lang.
- Farrell, T. S. C. (2020). *Reflective practice in language teaching: From research to practice*. Bloomsbury Academic.
- Fishman, J.A. (1991). *Reservating language shift: Theoretical and empirical foundations of assistance to threatened languages*. Multilingual Matters.
- Godwin-Jones, R. (2018). Using mobile technology to develop language skills and cultural understanding. *Language Learning & Technology*, 22(3), 1-17.
- Hanafi, U., Tjitrawati, & Fuadhiyah, U. (2024). Penerapan metode Teams Games Tournament berbantuan Uno Stacko dalam meningkatkan motivasi belajar Bahasa Jawa. *Piwulang: Jurnal Pendidikan Bahasa Jawa*, 12(2). <https://doi.org/10.15294/zqcf4q60>
- Insani, N. H., & Kholiq, Y. N. (2025). Exploring Learning Difficulties and Causal Factors in Javanese Scripts: Student and Teacher Perspectives in Indonesian High School. *Jurnal Pemberdayaan Masyarakat*, 4(3), 642–662. <https://doi.org/10.46843/jpm.v4i3.511>
- Iryani, E., & Sukoyo, J. (2023). Analisis gaya belajar siswa serta aplikasinya pada pembelajaran menulis aksara Jawa. *Piwulang: Jurnal Pendidikan Bahasa Jawa*, 11(1), 17–34.
- Joseph, J.E. (2004). *Language and identity: National, ethnic, religious*. Palgrave Macmillan.
- Kholiq, Y. N., Utami, M. R. S. B., & Fateah, N. (2024). Peningkatan Penguasaan Unggah-Ungguh Basa

- Melalui Metode Niteni, Niroke, Nambahi Berbantu Media Kartu. *Jurnal Pendidikan Bahasa Bali Undiksha*, 11(2), 116–127. <https://doi.org/10.23887/jpbv.v11i2.83814>
- Ming, L., Cheung, E., & Shi, H. (2025). Co-creating stories with generative AI Reflections from undergraduate students of a storytelling service-learning subject in Hong Kong. *Australian Review of Applied Linguistics*, 47(3), 259–283. <https://doi.org/https://doi.org/10.1075/ara.24101.che>
- Musyarofah, Y. H., Suwarna, & Widyastuti, S. H. (2025). Implementation of teaching modules with the TPACK approach in tembang macapat learning. *Piwulang: Jurnal Pendidikan Bahasa Jawa*, 13(2), 227–240. <https://doi.org/10.15294/piwulang.v13i2.27624>
- Nadhiroh, U. (2021). Peranan pembelajaran Bahasa Jawa dalam melestarikan budaya Jawa. *JISABDA: Jurnal Ilmiah Sastra dan Bahasa Daerah*, 3(1). <https://doi.org/10.26877/jisabda.v3i1.9223>
- Norton, B. (2013). *Identity and language learning: Extending the conversation* (2nd ed.). Multilingual Matters
- Rumsari, W., & Mahmudah, F. N. (2021). Javanese language learning strategy management to improve skills during the COVID-19 pandemic. *Piwulang: Jurnal Pendidikan Bahasa Jawa*, 9(1), 53–60. <https://doi.org/10.15294/piwulang.v9i1.44456>
- Santosa, C. D., Insani, N. H., Mujimin. (2026). Efektivitas model pembelajaran literasi aksara Jawa berbasis multimodal: studi eksperimen pada peserta didik SMP Negeri 24 Semarang. *Prasi: Jurnal Bahasa, Seni, dan Pengajarannya*, 21(1), 1–16. <https://doi.org/10.23887/prasi.v21i01.105931>
- Setiawan, B., & Insani, N. H. (2025). Monopoly Media “Unggah-Ungguh Basa” on Speaking Skills of “Bahasa Jawa Ragam Krama” in Junior High Schools. *Journal of Educational Research and Evaluation*, 9(3), 463–471. <https://doi.org/https://doi.org/10.23887/jere.v9i3.94870> Monopoly
- Shadiev, R. (2020). Review of Studies on Technology-Enhanced Language Learning. *Sustainability*, 12(2), 524.
- Sholahunnisa, A., & Insani, N. H. (2025). Pengembangan Media Pembelajaran Video Animasi 2 Dimensi Berbasis Computing dan Slideshow Materi Cerita Rakyat Semarang. *Piwulang: Jurnal Pendidikan Bahasa Jawa*, 12(1). <https://doi.org/10.15294/d0mzj617>
- Sulistiyowati, S., Winarti, D., & Prakoso, I. (2025). Adaptation strategies for Javanese language maintenance: Strategi adaptasi untuk pemertahanan bahasa Jawa. *Widyaparwa*, 53(1), 29–44.
- Surur, A., Wulandari, R., Rofiah, T., & Triani, D. (2023). Pengembangan Media Interaktif Aksara Jawa Berbasis Multimedia Terhadap Hasil Belajar. *Piwulang : Jurnal Pendidikan Bahasa Jawa*, 11(2), 218–232. <https://doi.org/10.15294/piwulang.v11i2.71622>
- UNESCO. (2022). *Global education monitoring report 2022: Technology in education – A tool on whose terms?* UNESCO.
- UNESCO. (2025). *Language matter: Global guidance on multilingual education*. UNESCO.
- UNESCO. (2025, February 18). *New UNESCO report calls for multilingual education to unlock learning and inclusion*. UNESCO. <https://www.unesco.org/en/articles/new-unesco-report-calls-multilingual-education-unlock-learning-and-inclusion>

