

# Initial Effectiveness of Instagram Reels-Based Motion Graphics for Introducing Ludruk to Generation Z

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## Abstract

Ludruk, a traditional theatrical art form from East Java, is increasingly marginalized among younger audiences, particularly Generation Z, whose media consumption is shaped by short, visual, and platform-based digital content. This study aimed to develop Instagram Reels-based motion graphics as digital learning media for introducing ludruk to Generation Z and to examine their initial effectiveness. The study employed the Multimedia Development Life Cycle (MDLC) framework and involved qualitative and quantitative data collection through literature review, questionnaires, observation, interviews, and user testing. The needs-analysis stage involved 40 respondents from the target audience group, while the user-testing stage involved 30 participants. The final product consisted of four short motion graphic videos, each lasting less than three minutes, designed with dynamic visuals, light narration, and culturally adapted humor to align with the communication preferences of Generation Z. User-testing results showed a substantial increase in participants' understanding, with a mean N-gain score of 0.8, which falls into the high category. These findings indicate that Instagram Reels-based motion graphics have promising initial effectiveness as digital learning media for introducing ludruk and may serve as an accessible entry point for strengthening cultural literacy among younger audiences.

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## Introduction

Ludruk is a traditional theatrical art form from East Java that combines performance, music, humor, and social commentary (Ibad, 2025). As part of local cultural heritage, ludruk carries not only entertainment value but also educational and cultural significance (Ramadani et al., 2023) (Li, 2022). However, its position in contemporary public life has weakened considerably, especially among younger audiences. This decline raises an important concern, because the sustainability of local cultural knowledge increasingly depends on whether younger generations remain exposed to and engaged with traditional forms of performance (Ginzarly & Teller, 2025).

The urgency of this issue is reflected in the declining visibility of ludruk and the low level of public engagement with traditional theatrical performance. This problem is supported by statistical and documentary data indicating low audience interest in theater and wayang-related performances, as well as a long-term reduction in the number of ludruk groups, artists, and performances in East Java. These conditions suggest that ludruk is not merely facing a decline in popularity, but a broader challenge of cultural transmission in an era shaped by changing entertainment preferences and digital media habits.

Generation Z is a particularly important audience in this context (Nevrelva et al., 2024). As the largest digitally connected age cohort, this generation plays a critical role in determining whether local cultural traditions remain meaningful in the future. Yet many members of Generation Z remain unfamiliar with ludruk and low interest in consuming conventional performance-based cultural content. This is not simply a matter of cultural rejection; rather, it points to a mismatch between available modes of cultural introduction and the media habits of young audiences, who are more accustomed to fast, visual, short-form, and platform-based content (Nkomo et al., 2021).

This mismatch highlights the need for more adaptive forms of cultural learning media (Chusniyah et al., 2025; Park, 2021). Previous efforts to introduce ludruk to younger audiences, including community-based activities and live cultural outreach, demonstrate that the art form can still attract youth interest when it is presented in a more accessible way. Nevertheless, such initiatives remain limited in reach and continuity. In addition, conventional approaches to cultural education often depend on direct access, extended attention, and formal or semi-formal exposure, all of which may reduce their effectiveness for digitally oriented audiences. Under these conditions, digital learning media offer a more scalable and potentially more relevant alternative for cultural introduction (Fontal et al., 2024).

Among currently available digital formats, Instagram Reels offers particular relevance for Generation Z. Instagram is one of the most preferred social media platforms among this age group, while short-form video content is especially popular. These platform characteristics matter pedagogically, because they shape how users access, process, and retain information. If cultural knowledge is to remain visible within the everyday media environment of Generation Z, it needs to be delivered in forms that are concise, visually engaging, and easily accessible through the platforms they already use (Getenet et al., 2024).

Motion graphics are well suited to this need because they can simplify complex information, combine visual and audio elements, and present educational content in a dynamic but controlled form (Fyfield et al., 2022). Motion graphics were selected as the core medium because they enable traditional cultural material to be transformed into concise audiovisual units that are more accessible to young digital audiences (Hamidah et al., 2023). Such a format is especially useful for cultural topics like ludruk, which involve historical context, performance structure, and symbolic elements that may feel distant or unfamiliar to younger viewers when presented in conventional ways (Fontal et al., 2024).

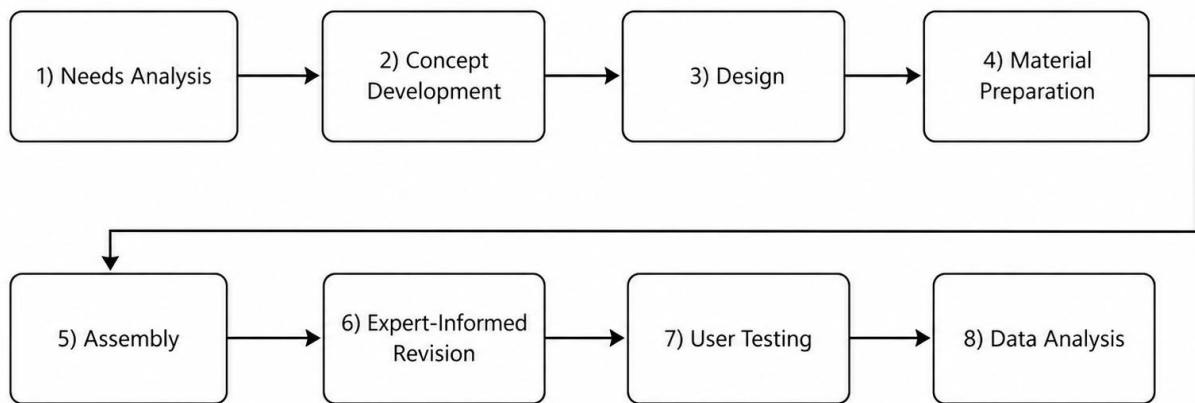
Despite the growing use of digital media for educational purposes, studies and practical works specifically focused on ludruk introduction through short-form motion graphics for Generation Z remain limited. Existing cultural content often appears either as documentation, performance clips, or general information, rather than as intentionally designed educational media aligned with the communication habits of digital-native audiences (Li, 2022). This gap indicates the need for a more targeted development study that not only produces media, but also examines its initial effectiveness as a learning tool for cultural introduction (Ginzarly & Teller, 2025).

Based on this background, the present study develops a series of Instagram Reels-based motion graphics as educational media for introducing ludruk to Generation Z. The media were designed through the Multimedia Development Life Cycle (MDLC) framework and resulted in four short episodes, each under three minutes in duration. User testing yielded an average N-gain score above 0.7, indicating promising initial effectiveness in improving participants' understanding.

Therefore, this article aims to examine how short-form motion graphics can function as digital cultural learning media and to position this development within broader discussions of educational media innovation and cultural literacy for younger audiences.

## Method

This study employed a development research design to develop and preliminarily evaluate Instagram Reels-based motion graphics for introducing ludruk to Generation Z. The study adopted the Multimedia Development Life Cycle (MDLC) framework, which consists of six stages: concept, design, material collecting, assembly, testing, and distribution (Roedavan et al., 2025; Samala et al., 2024; Sufian et al., 2023). This study focuses on the stages most relevant to scholarly reporting, namely needs analysis, media development, expert-informed revision, and initial user testing. Figure 1 presents the research procedure adapted from the Multimedia Development Life Cycle (MDLC). The figure summarizes the sequential stages used in this study, beginning with needs analysis and continuing through concept development, design, material preparation, assembly, expert-informed revision, user testing, and data analysis.



**Figure 1.** Research procedure adapted from the Multimedia Development Life Cycle (MDLC).

The target users of the developed media were Generation Z aged 16–25 years living in East Java. This target group was selected because the media were specifically designed to address the limited exposure of young audiences to ludruk and to align with their digital media habits. The final product consisted of four short motion graphic videos distributed in the Instagram Reels format, with each episode lasting less than three minute (Busono et al., 2019; Hamidah et al., 2023; Solehatin et al., 2023).

Data were collected from both primary and secondary sources. Secondary data were obtained through literature review and existing-study analysis. The literature review was conducted to gather theoretical and contextual information related to ludruk, motion graphics, multimedia development, and digital media use in educational contexts. The existing-study stage examined previous efforts to introduce ludruk, such as routine performances, school-based extracurricular activities, and the “Ludruk Goes to School” program, as well as comparable audiovisual works used as reference materials for media development.

Primary data were gathered through questionnaires, observation, interviews, and user testing. The questionnaire was used in the needs-analysis stage to identify participants’ prior knowledge of ludruk, psychographic tendencies, internet use, and preferences for audiovisual content (Rofiah et al., 2024). In this article, the number of questionnaire respondents should be reported as [n = 40]

based on the final verified dataset in this research. Observation was conducted to obtain direct information about the structure and performance elements of ludruk. In addition, semi-structured interviews were carried out with relevant informants, including a representative from the LUNTAS ludruk community, an illustrator, and a motion designer, in order to refine the cultural content, communication approach, and visual quality of the media.

The development procedure began with the concept stage, in which the collected data were reviewed to determine the main communication idea and the educational focus of the media. The findings from the needs analysis were then translated into a series-based content concept intended to make ludruk easier to understand for younger audiences (Febriawan et al., 2025). The next stages involved developing the serial structure, storyline, storyboard, character concept, and visual direction, followed by the preparation of illustrations, narration, and audio materials. These materials were then integrated during the assembly stage to produce the motion graphic episodes.

The preliminary outputs were reviewed and improved based on feedback from relevant informants before being finalized for testing. The initial effectiveness of the developed media was examined through user testing involving 30 audience samples from the target segment. In this stage, participants completed a pre-test, accessed the motion graphic series, and then completed a post-test. The test instrument consisted of ten open-ended questions covering basic knowledge of ludruk, including its origin, definition, etymology, performance structure, early development, and historical transformation. This procedure was intended to assess the extent to which the developed media improved participants' understanding of ludruk after exposure to the content.

Data were analyzed using descriptive and quantitative techniques. Qualitative data from literature review, observation, interviews, and open responses were analyzed descriptively to identify audience needs and to support the design rationale of the media. The effectiveness of the media was evaluated using the normalized gain (N-Gain) formula by comparing pre-test and post-test scores. Following the criteria used in the research, N-Gain values were interpreted as high when greater than 0.7, moderate when ranging from 0.3 to 0.7, and low when below 0.3 (Indah Wulandari et al., 2025; Rahman et al., 2024). This analysis was used to determine the initial educational effectiveness of the Instagram Reels-based motion graphics as media for introducing ludruk to Generation Z.

## **Results and Discussion**

### ***Audience Needs and Context of Media Use***

The needs-analysis stage indicated that ludruk was still relatively unfamiliar to many members of the target audience. Although 87.5% of respondents had heard of ludruk, their self-reported level of understanding remained relatively low, with most respondents placing themselves at level 3 (45.7%) or level 2 (34.3%) on a five-point scale. In addition, 60.0% reported that they rarely received information about ludruk. These findings confirm the existence of a gap between local cultural heritage and the information habits of younger generations.

The questionnaire also showed that 77.5% of respondents considered learning ludruk important or very important, while 75.0% expressed interest or strong interest in learning it. In terms of platform habits, 62.5% reported using Instagram for more than three hours per day, and 50.0% stated that they watched Reels frequently or very frequently. Moreover, 60.0% were interested or very interested in watching ludruk-related educational Reels. These results indicate

that the challenge lies not in the total absence of audience interest, but in the lack of media formats that align with the communication habits of Generation Z.

**Table 1.** Summary of Needs-Analysis Findings

Needs-analysis domain	Main finding	Design implication
Familiarity with ludruk	87.5% had heard of ludruk, but many respondents still showed limited or inaccurate understanding of it	The media should begin with a basic introduction to what ludruk is
Level of understanding	45.7% rated their understanding at level 3 and 34.3% at level 2 (out of 5)	The content should be introductory and explanatory rather than advanced
Access to information about ludruk	60.0% reported that they rarely received information about ludruk	The media should function as an accessible introductory source of information
Perceived importance of learning ludruk	77.5% considered learning ludruk important or very important	Cultural education content has relevance for the target audience
Interest in learning ludruk	75.0% were interested or very interested in learning ludruk	The media should build on existing curiosity and convert it into engagement
Daily Instagram use	62.5% used Instagram for more than three hours per day	Instagram is an appropriate platform for content distribution
Frequently consumed Instagram content	Entertainment (92.5%), information (72.5%), and educational content (60.0%) were the most consumed content types	The media should combine educational value with an entertaining presentation style
Reels viewing frequency	50.0% reported watching Reels frequently or very frequently	Short-form video is suitable for reaching the target audience
Interest in ludruk education via Reels	60.0% were interested or very interested in watching ludruk-related educational Reels	Reels-based delivery is relevant for cultural learning media
Preferred ludruk topics	Pakem of ludruk (70.0%), ludruk figures (60.0%), periodization of ludruk (57.5%), and basic definition of ludruk (55.0%)	The content should focus on foundational and culturally significant themes
Preferred visual style	Paper cutout effect illustration (35.0%) and hand-drawn illustration (30.0%) were the most preferred styles	The visual direction should follow youth-oriented illustrative preferences

The main findings from the needs-analysis stage are summarized in Table 1. As shown in the table, the target audience demonstrated limited familiarity with ludruk, infrequent exposure to ludruk-related information, and strong preferences for Instagram-based short-form content. These findings support the decision to develop a Reels-based motion graphic series that introduces foundational knowledge of ludruk in a concise, visually engaging, and youth-oriented format. The findings also justify the choice of Instagram Reels as the primary delivery format. Earlier sections of the research note that Instagram is highly preferred by Generation Z and that short-form video is one of the most favored content formats for this group. From a learning-media perspective, this matters because the effectiveness of educational communication depends not only on what is taught but also on whether the format matches the learner’s habitual environment of access and attention. For this reason, the development of short-form motion graphics can be understood as a strategic attempt to place cultural learning within the everyday digital ecology of Generation Z.

### Development Results of the Educational Media

Based on the needs-analysis findings, the educational media were developed in the form of a serialized motion graphic series titled *Panggung Cak Genji*. The media were designed as four short episodes in Instagram Reels format, each lasting less than three minutes. The content covered foundational aspects of ludruk, including its meaning and origin, the structure or *pakem* of ludruk performance, and the periodization of its development and important figures associated with it (Batulloh, 2025). This content scope reflects a basic cultural-literacy orientation: the media introduce essential knowledge first, rather than attempting to present overly broad or advanced cultural material in a single exposure (Hasanah et al., 2021; Kobakhidze, 2021; Smith & Kumi-Yeboah, 2015).

**Table 2.** Overview of the Developed Motion Graphic Series

Video	Title	Main topic	Duration	Learning focus
Introductory video	<i>Cak Genji Kenalan</i>	Introduction to the main character and the educational series	00:41	Audience orientation and narrative entry point
Episode 1	<i>Drama Paket Lengkap</i>	Basic introduction to ludruk and the origin of the term	02:11	Understanding the meaning and origin of ludruk
Episode 2	<i>Tidak Gong, Uang Kembali!</i>	<i>Pakem</i> and structure of ludruk performance	02:21	Recognizing the sequence and main elements of ludruk performance
Episode 3	<i>Ludruk United!</i>	Periodization and development of ludruk	02:53	Understanding the historical development of ludruk and its influential figures

Table 2 presents the structure of the developed motion graphic series. As shown in the table, the media were organized into four short videos, each addressing a different foundational aspect of ludruk. The introductory video functions as a narrative entry point, while Episodes 1–3 progressively present the meaning of ludruk, the structure of its performance, and its historical development. This serial arrangement supports the instructional objective of introducing cultural knowledge in smaller and more manageable learning units that align with the short-form viewing habits of Generation Z. The development results also show that the serial format was not merely a stylistic choice (Pi et al., 2025). Instead, it functioned as an instructional strategy to divide complex cultural content into smaller and more manageable learning units. This is particularly relevant for digital-native audiences whose media consumption tends to favor concise and segmented forms of information (Chardonnes, 2025). By structuring the content across multiple episodes, the study reduced the burden of information density while maintaining continuity of topic and viewer engagement.

A distinctive feature of the developed media is the use of *Cak Genji* as the central narrative character. The character Cak Genji functions as a bridge between traditional ludruk and contemporary youth culture. From a pedagogical standpoint, this character-based approach serves several functions: it personalizes the delivery of cultural information, creates a consistent narrative voice across episodes, and reduces the distance between the audience and a topic that may otherwise appear historically remote (Chandra Agustin & Evi Nur Fadillah, 2024; Rahiem, 2021). Rather than functioning only as a visual mascot, Cak Genji operates as a mediating figure that translates cultural material into a more approachable communicative mode.

The internal structure of the content further supports this approach. The research shows that the videos were organized into recurring segments such as attention-grabbing introduction, core educational material, culturally adapted *kidungan*, and a closing call to action. For a journal article,

the key point is not the production detail itself, but the instructional implication of this structure: the media combine attention capture, content delivery, cultural reinforcement, and viewer engagement within one short learning sequence. This suggests that the developed media were designed not only to inform but also to sustain audience interest across very short viewing durations (Ratri & Aviyanti, 2025).

**Educational Characteristics of the Final Product**

The final product was designed with dynamic visuals, light narration, and humor adjusted to the communication style of the target audience. Figure 2 presents representative frames from the final motion graphic series. As shown in the figure, the developed media combined dynamic visuals, simplified cultural explanation, and a youth-oriented narrative style to make ludruk content more accessible to Generation Z audiences. In this research, these choices were consistently linked to the intention to make ludruk feel closer and more accessible to Generation Z. In educational terms, such design choices matter because familiarity of tone can reduce psychological distance from the material and increase willingness to engage with content that may otherwise be perceived as outdated or irrelevant.

Another important characteristic of the media is the translation of traditional performance elements into short audiovisual explanation. Ludruk is not introduced only as a historical object, but as a living form with recognizable structures, functions, and cultural expressions. The inclusion of *kidungan*-inspired elements, simplified storytelling, and platform-appropriate pacing demonstrates an attempt to preserve key cultural markers while adapting their form to a digital learning environment (Li, 2022). This is significant because it shows that cultural adaptation in digital media does not necessarily imply the loss of cultural substance; rather, it can function as a form of pedagogical mediation.

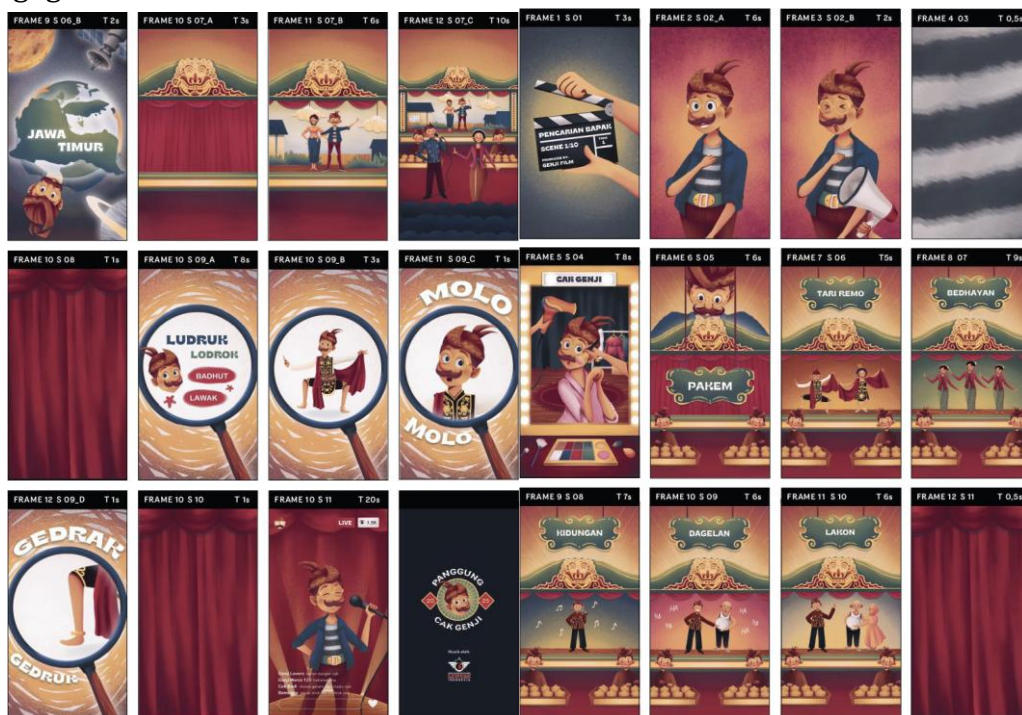


Figure 2. Representative frames from the developed motion graphic series.

From the perspective of multimedia learning, the developed product also benefits from combining verbal and visual cues in a compact format (Pi et al., 2025). The content does not rely

solely on text or solely on illustration, but integrates spoken narration, moving graphics, and thematic sequencing. This multimodal integration likely contributed to the increase in participants' post-test performance, because it enabled cultural information to be presented in multiple reinforcing forms rather than through isolated explanation alone (Carcamo & Pino, 2025).

### **Initial Effectiveness of the Developed Media**

The user-testing phase involved 30 participants from the target audience segment and was designed to examine the initial effectiveness of the developed media. The mean pre-test score was 18.9, while the mean post-test score increased to 87.7, indicating a substantial improvement in participants' understanding after exposure to the developed media. The average N-gain score was 0.8, which falls into the high category according to the criteria used in the study. These results indicate a substantial increase in participants' understanding after interacting with the motion graphic series. The summary of the user-testing results is presented in Table 3. As shown in the table, participants' mean post-test score was substantially higher than their mean pre-test score, and the average N-gain reached the high category. These results indicate that the developed motion graphic series showed promising initial effectiveness in improving participants' understanding of ludruk.

**Table 3.** Summary of User-Testing Results

<b>Variable</b>	<b>Value</b>
Number of participants	30
Mean pre-test score	18.9
Mean post-test score	87.7
Mean N-gain	0.8
Effectiveness category	High

The item structure of the pre-test and post-test also shows that the measured knowledge domains were directly aligned with the educational objectives of the media. Participants were asked about the regional origin of ludruk, its definition, its etymological background, the structure of the performance, early forms such as *lerok ngamen*, the role of ludruk as social criticism, the causes of its decline, and figures associated with its renewal. This alignment suggests that the observed gain was not incidental, but related to the actual content embedded in the developed episodes.

Participants also responded positively to the visual style, communication style, character design, and engagement level of *Panggung Cak Genji*. Although these evaluative responses are supportive rather than conclusive, they strengthen the interpretation that the increase in understanding was accompanied by a relatively positive level of media acceptability. For a development-oriented study, this is important: an educational medium is not only expected to improve understanding, but also to remain sufficiently engaging for the intended users.

### **Discussion**

The results suggest that Instagram Reels-based motion graphics can function as promising digital cultural learning media for introducing ludruk to Generation Z. This finding directly supports the study's initial premise that the challenge of cultural transmission among younger audiences is partly a media-design problem. When a traditional topic is delivered in a short, visually dynamic, and platform-familiar form, initial understanding will improve (Afifurrahman et al., 2025; Koderi et al., 2023; Ross et al., 2025; Wu et al., 2025). In this case, the developed media appear to have reduced the gap between cultural content and audience media habits.

The use of serialized short-form content is especially relevant in this context. Traditional cultural materials such as ludruk involve layered information, including origin, terminology, performance sequence, social function, and historical transformation. Delivering all of these in a single conventional format may overwhelm first-time viewers. The serial approach used in this study instead allowed for progressive cultural introduction, which is more consistent with how digital audiences often process information: in short, connected segments rather than in long uninterrupted expositions.

The study also shows that character-based communication can support cultural learning (Manik et al., 2025; Rahiem, 2021). Cak Genji was designed not simply as an entertainer, but as a narrative mediator who connected traditional content with the language, humor, and attention patterns of the target audience. This is pedagogically meaningful because younger audiences often engage more easily with a stable narrative voice than with impersonal information delivery. In other words, the character helped make the cultural message more socially readable without removing its educational intent.

Another important contribution of the study lies in how it reframes cultural preservation through learning media innovation. The research does not claim that short-form motion graphics can replace direct engagement with live performance or formal cultural education. However, the results indicate that such media can serve as an accessible entry point (Fontal et al., 2024). This is a valuable contribution to cultural continuity does not always begin with deep mastery, it often begins with exposure, recognition, and curiosity (Cavicchi, 2024; Cobb et al., 2026; van den Haak & Grusauskaite, 2025). In that sense, the developed media should be understood as introductory cultural-learning tools rather than as comprehensive substitutes for lived cultural participation.

At the same time, the findings need to be interpreted with caution. The effectiveness reported here is an initial result based on a limited user-testing sample. The study measured short-term improvement in understanding immediately after exposure to the media, not long-term retention, behavioral change, or broader cultural participation. In addition, although participants responded positively to the media, the current evidence does not yet allow claims about comparative superiority over other instructional formats. Therefore, the contribution of this study lies in demonstrating feasibility and promising initial effectiveness, rather than in offering a final or universal model of cultural learning.

These limitations also point to productive directions for future research. Subsequent studies may test the media with larger and more diverse samples, compare the motion graphic format with other forms of digital learning media, or examine longer-term impacts on cultural memory and interest in live ludruk engagement. Such directions would help strengthen the empirical basis for integrating digital cultural media into broader educational and literacy initiatives.

## **Conclusion**

This study aimed to develop Instagram Reels-based motion graphics as digital learning media for introducing ludruk to Generation Z and to examine their initial effectiveness in improving cultural understanding. Using the Multimedia Development Life Cycle framework, the study produced a four-part short-form motion graphic series that translated foundational knowledge of ludruk its meaning, origins, performance structure, historical development, and cultural significance into a concise, visually engaging, and platform-relevant format. The findings demonstrate that the developed media effectively addressed the gap between the declining familiarity of young audiences with traditional

performance arts and their strong preference for short, visual, and mobile-based digital content. The substantial increase from pre-test to post-test scores, supported by a high average N-gain, indicates that Instagram Reels-based motion graphics can serve as a promising introductory medium for strengthening cultural literacy among Generation Z. Thus, the research questions were answered by showing that culturally grounded, youth-oriented digital media can enhance initial understanding of ludruk while positioning traditional heritage within the everyday digital ecology of younger audiences.

Theoretically, this study contributes to the discourse on digital cultural learning by showing that cultural preservation can be mediated through adaptive, multimodal, and platform-sensitive instructional design. Methodologically, it demonstrates the relevance of the MDLC framework for developing educational media that integrate cultural accuracy, narrative character design, audiovisual communication, and user-centered testing. Practically, the findings offer implications for educators, cultural communities, and media developers seeking to introduce local heritage through formats that are accessible, engaging, and compatible with contemporary youth media habits. Nevertheless, this study is limited by its relatively small sample, its focus on Generation Z audiences in East Java, and its measurement of short-term understanding rather than long-term retention, behavioral engagement, or sustained cultural participation. Future research should involve larger and more diverse participants, compare short-form motion graphics with other digital or conventional media, and examine whether repeated exposure can foster deeper cultural appreciation and participation in live ludruk practices. Overall, this study affirms that digital learning media, when thoughtfully designed, can become a strategic bridge between traditional cultural heritage and the future literacy practices of younger generations.

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