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Impact of Artificial Intelligence Integration in Adapting Narrative Essays into Multimodal Videos on EFL Students' Writing Literacy

Eva Fitriani Syarifah* , Eka Nurhidayat , Aji Septiaji ,

Najma Olfia Zahara 

Universitas Majalengka
Majalengka, West Java, Indonesia

Vina Aini Salsabila 

Universitas Suryakencana
Cianjur, West Java, Indonesia

Abstract. The integration of artificial intelligence (AI) in language education has gained increasing scholarly attention. However, empirical studies exploring its pedagogical use in transforming students' written texts into multimodal representations to enhance writing literacy particularly in EFL contexts remain limited. Addressing this gap, this study investigates the impact of AI-assisted adaptation of narrative essays into multimodal videos on EFL students' writing literacy development. Grounded in multimodal literacy theory which views meaning making as the composition of multiple semiotic resources and sociocultural theory which conceptualizes learning as mediated through tools and social interaction, this study adopts a qualitative case study design. The participants consisted of 12 second-semester undergraduate students enrolled in an English as Foreign Language (EFL) Writing course at a university in West Java, Indonesia, selected through purposive sampling. Data were collected through classroom observations, document analysis of students' narrative essays and AI-generated videos, semi-structured interviews, and students' reflective learning journals. AI-powered video generation tools were utilized to transform narrative texts into multimodal compositions integrating visual, audio, and textual elements. Data were analyzed using thematic analysis to identify recurring patterns related to students' writing literacy development. The findings indicate that AI-supported multimodal transformation facilitated students' deeper understanding of narrative structure, including plot development, character construction, and conflict resolution. Furthermore, the process enhanced students' metacognitive

*Corresponding author: Eva Fitriani Syarifah; evafitrianisyarifah@unma.ac.id

awareness of writing. Students also reported higher motivation and engagement compared to traditional text-based writing tasks. This study contributes to AI-enhanced language pedagogy by proposing a pedagogical framework for integrating multimodal literacy in EFL writing instruction.

Keywords: artificial intelligence; multimodal literacy; English as foreign language writing; narrative essays; digital pedagogy

1. Introduction

The development of digital technologies has reshaped literacy and communication in education, requiring language learners to engage not only with written texts but also with meaning making processes that integrate visual, auditory, and multimodal elements. In English as a Foreign Language (EFL) context, this shift presents a pressing pedagogical challenge, particularly in writing instruction, where students are expected to develop complex ideas while navigating linguistic, cognitive, and motivational constraints (Song & Song, 2023; Woo et al., 2022). As writing is increasingly situated within digital and multimodal environments, traditional text-only approaches may no longer sufficiently address learners' communicative needs or sustain their engagement.

The concept of multimodal literacy has gained prominence, emphasizing the integration of multiple semiotic resources such as images, sound, animation, and written language to construct meaning. Multimodal videos, for instance, may include visual scene sequencing to represent events, voice-over to convey plot development, background music to enhance emotional tone, and animated textual elements to highlight key components. Such multimodal compositions have the potential to support learners' understanding of structure and stimulate deeper engagement with writing tasks (Lim & Polio, 2020; Qie et.al., 2021; Tan, 2023; Widiati et al., 2023) However, designing and producing multimodal texts remains challenging for EFL students, particularly when they lack the technical skills or pedagogical scaffolding needed to integrate multiple modes effectively.

Recent developments in Artificial Intelligence (AI) offer new pedagogical possibilities for addressing these challenges. AI-powered tools can assist learners in transforming written texts into multimodal representations by automating aspects of video generation, visual design, and audio integration. While previous studies have primarily examined AI as a tool for grammatical correction, automated feedback, or writing assistance (Alharbi, 2023; Osawa, 2023; Zhao, 2022) research exploring its role in facilitating the transformation of students' written texts into multimodal videos as part of the writing process. Consequently, the pedagogical implications of AI-mediated multimodal transformation for EFL writing literacy remain underexplored.

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Grounded in multimodal literacy theory and sociocultural perspectives on learning, this study investigates how AI-facilitated transformation of narrative essays into multimodal videos influences EFL students' writing literacy. Specifically, the study aims to: (1) examine the processes through which AI tools support the adaptation of narrative essays into multimodal videos; (2) explore the effects of multimodal video representations on students' narrative writing comprehension and development; and (3) investigate students' perceptions of AI-enhanced multimodal writing experiences. The findings of this study are expected to contribute to the enhancement of quality education by offering pedagogical insights into AI-integrated writing instruction, strengthening students' writing competencies, and informing curriculum development that aligns EFL writing pedagogy with the demands of digital era literacy.

2. Literature Review

2.1. AI in Language Education: From Correction to Generation

The application of AI in language education has developed significantly over the past decade with particular emphasis on enhancing writing instruction through automated feedback mechanisms and intelligent tutoring systems (Orak & Turan, 2024). Recent studies have demonstrated that AI-powered writing assistants can provide immediate, personalized feedback on grammatical accuracy, lexical appropriateness, and structural coherence (Cardon et al., 2023; Tran, 2024). However, the pedagogical implications of AI integration extend beyond mere error correction to encompass fundamental transformations in how writing is conceptualized, taught, and assessed.

Building on this foundation, Mahmud (2023) investigated the effectiveness of AI writing tools in developing EFL students' writing proficiency, reporting significant improvements in grammatical accuracy and vocabulary diversity. Similarly, Zheng et al. (2024) examined teachers' perspectives on AI writing tools, revealing a dichotomy between enthusiasm for efficiency gains and concerns regarding potential over-reliance on automated assistance. These findings underscore the critical need for a balanced integration that influences AI capabilities while maintaining a focus on developing autonomous writing competencies.

Expanding the scope of AI applications further, the emergence of generative AI technologies has introduced novel possibilities for content creation and transformation (Fitria, 2023). Unlike traditional AI writing tools that primarily focus on remediation, generative AI can transform textual content into alternative representational formats including visual narratives, animated sequences, and multimodal compositions. This transformative capability opens new avenues for

pedagogical innovation in writing instruction, shifting the focus from text only production to multimedia creation.

2.2. Multimodal Literacy and Cognitive Benefits in L2 Writing

In line with the technological shift described above, multimodal literacy theory recognizes that contemporary communication involves orchestrating multiple semiotic resources to construct meaning (Baker, 2021; Bekes & Galzina, 2022). In educational contexts, this theoretical framework has informed pedagogical approaches that integrate visual, auditory, spatial, and gestural modes alongside traditional linguistic instruction (Jiang & Hafner, 2024). The digital revolution has amplified the importance of multimodal competencies, as students increasingly encounter and produce texts that combine various representational modes.

Research on multimodal composition in L2 contexts has demonstrated positive effects on language development, creative expression, and critical thinking skills (Liu et al., 2023). Jiang and Lai (2025) found that students engaged in digital multimodal composing demonstrated enhanced awareness of audience, purpose, and rhetorical strategies compared to those limited to traditional text-based writing. These findings suggest that multimodal approaches can facilitate deeper engagement with writing as a communicative practice rather than merely a linguistic exercise.

Dual coding theory (Chiu et al., 2023) suggests that information processed through multiple channels creates more vigorous mental representations, facilitating better retention and recall. In writing instruction contexts, exposure to multimodal representations of narrative structures may enhance students' understanding of abstract concepts such as plot development, character arcs, and thematic coherence, thereby reducing cognitive load during the writing process.

2.3. Narrative Writing Challenges and AI-Multimodal

Multimodal intervention is particularly relevant in the context of narrative writing for EFL learners. This genre presents unique challenges requiring not only linguistic proficiency but also cultural awareness, creative imagination, and organizational skills (Hyland & Hyland, 2019). Research has identified common difficulties faced by EFL students in narrative composition including limited vocabulary for descriptive language, challenges in maintaining consistent verb tenses, and difficulties in creating coherent plot structures (Moses & Mohamad, 2019).

Consequently, traditional approaches to teaching narrative writing often rely on model texts and structural templates. While providing necessary scaffolding, these methods may limit creative expression and authentic voice development (Syarifah & Emiliasari, 2019). Therefore, the integration of multimodal elements in narrative instruction has been proposed to address these limitations by providing alternative pathways for story construction. Recent studies have explored various technological interventions. For instance, Daniel et al. (2025) investigated digital storytelling as a pedagogical approach for developing AI literacy alongside writing skills. They found that students who created digital stories demonstrated improved narrative coherence and increased motivation.

However, the specific impact of AI-mediated transformation of existing written narratives into multimodal formats remains underexplored.

2.4. Theoretical Framework

This study employs an integrated theoretical framework combining multimodal social semiotics, sociocultural theory, and cognitive theory to examine the impact of AI-mediated multimodal transformation on writing development. Multimodal social semiotics provides the lens for analysing the process of how students re-articulate linguistic meaning into visual and auditory forms. Sociocultural theory frames AI not merely as a tool but as a mediating artifact that scaffolds learning within students' Zones of Proximal Development (ZPD), allowing them to execute complex narrative tasks beyond their independent capabilities. Finally, cognitive theory informs the understanding of how AI automation reduces the unnecessary cognitive load associated with technical production, thereby enhancing appropriate processing required for deep comprehension of narrative structures.

3. Methodology

This study employed a qualitative case study design to investigate the integration of Artificial Intelligence (AI) in transforming narrative essays into multimodal videos within an authentic EFL instructional context. A case study approach was selected for its capacity to provide an in-depth, contextualized understanding of complex pedagogical processes involving technology integration, learner engagement, and writing development (Yin & McKay, 2018). The research was conducted over one academic semester at a university in West Java, Indonesia.

The participants consisted of 12 second-semester undergraduate students enrolled in an EFL Writing course in the English Education Department. Purposive sampling was employed based on the students' enrolment in the target course and their informed consent to participate. To facilitate collaborative learning and technical scaffolding, the participants were organized into four small groups, with each group consisting of three members. The institutional context reflects a typical Indonesian EFL higher education setting characterized by limited exposure to authentic English use beyond classroom environments. The course met weekly for 100-minute sessions and focused on developing genre writing skills across multiple genres with narrative writing accounting for approximately 30% of the course content.

The research implementation was conducted in four sequential phases where students worked in their assigned collaborative groups. The phases included (1) writing narrative essay (week 1-2): students composed 800-1000 words narrative essays collaboratively, the stages including pre writing, drafting, peer review, and revision, (2) AI tool training (week 3): students received comprehensive training on using the AI video generation platforms including technical operations, creative decision making for visual representation, and copyright considerations. Training sessions emphasized the relationship between textual elements and their multimodal representations, (3) multimodal transformation (week 4-5): working in collaborative groups of 3-4 students, participants transformed their narrative essays into 3-5 minute multimodal videos using AI. This process required

students to identify key narrative elements, select appropriate visual representations, and make decisions about pacing, transitions, and audio elements, and (4) reflection and revision (week 6): students viewed and analysed the multimodal videos created by their peers, engaged in reflective discussions about the transformation process and their learning experiences.

Multiple data sources were utilized to ensure triangulation and enhance the trustworthiness of the findings included classroom observation, document analysis, reflective journal, and semi structured interview. The data were collected through classroom observations that conducted during six instructional sessions focusing on student engagement, interaction with AI tools, group dynamics, and technical challenges. Observations were guided by a structured field notes. Then, document analysis: artifacts analysed included four original and four final narrative essays that were written in group and four multimodal video products (representing the final output of each collaborative group). In addition, 12 reflective learning journal from all participants were obtained. Each entry documented the students' ongoing learning experiences and challenges. Last, semi-structured interviews conducted with purposively selected students representing varied proficiency levels. Each interview lasted 30–45 minutes, exploring experiences with AI tools and perceived benefits and challenges.

Data analysis followed Braun and Clarke's (2006) six-phase thematic analysis framework, complemented by visual content analysis for video artifacts. This combined approach enabled the systematic identification of themes emerging from textual, visual, and audio data. The analytical process involved familiarization, initial coding, theme development, review, refinement, and interpretation. Furthermore, ethical considerations were integral to the research process. Prior to data collection, informed consent was obtained from all participants ensuring they were aware of their voluntary participation and right to withdraw without penalty. Participant anonymity was preserved through the use of pseudonyms. Institutional approval was obtained prior to the commencement of the study to ensure compliance with ethical research standards.

4. Findings

The following themes emerged from the findings: AI-facilitated multimodal transformation processes, students' writing comprehension and development, and students' learning experiences with AI-enhanced multimodal writing.

4.1 AI-facilitated multimodal transformation processes

4.1.1 AI-based text and content generation

The findings indicate that students utilised AI-based text and content generation tools primarily to support the ideation, planning, and refinement stages of narrative to multimodal transformation rather than for fully automated writing. Among the tools employed, ChatGPT and Gemini emerged as the most frequently used AI platforms. Students reported using them to generate initial story ideas, refine narrative outlines, paraphrase selected passages for clarity, and formulate concise scene descriptions required for multimodal video segmentation. Reflective journals revealed that ChatGPT was commonly consulted to clarify

narrative structure, particularly when students had trouble identifying key events, conflicts, or resolutions within their essays. For example, Participant 5 wrote in the reflective journal:

"I asked ChatGPT to analyse my story structure. It told me that my conflict was not strong and suggested that I make the problem clearer before the resolution."

Similarly, Participant 11 reflected:

"ChatGPT helped me see that my essay was more like a description of events, not a real narrative. It suggested adding a clearer resolution."

Interview data further supported this finding. Participant 2 explained:

"When I pasted my essay into ChatGPT and asked about the narrative structure, it pointed out which parts were orientation, conflict, and resolution. That made it easier for me to revise."

The students reorganised paragraphs after consulting ChatGPT particularly by separating background information from the main conflict and elaborating the resolution stage more clearly. These indicate that students did not rely on ChatGPT to generate content but rather used it as a structural guide to better understand narrative organisation. In addition to text ideation, students used ChatGPT and Gemini to generate short prompts, dialogue summaries, and narrative captions that were later adapted for visual and audio representation.

However, document analysis showed that students rarely adopted AI-generated text verbatim. Instead, they selectively edited and contextualised AI outputs to align with their personal experiences, cultural backgrounds, and intended narrative meanings. This selective use was evident in revised essays and storyboards where AI-generated suggestions were modified to preserve authorial voice. Reflective journals further confirmed this pattern. Participant 10 noted:

"ChatGPT gave me ideas but I changed many words because they did not sound like me. I wanted my story to still feel personal."

Similarly, Participant 6 wrote:

"Sometimes the AI sentences were too formal or too general. I used them only as inspiration, then rewrote them in my own way."

Interview data supported these observations. Participant 3 explained:

"I never copied directly from ChatGPT. I used it to check if my story made sense, but the words had to be mine."

These findings demonstrate that AI functioned as a supportive reference rather than a replacement for students' authorship. Interview data further indicated that AI-based text generation functioned primarily as a cognitive support tool in the process of adapting narrative essays into multimodal videos, directly addressing the first research objective concerning how AI tools facilitate this transformation. Several participants reported that AI assistance helped them overcome writer's block, clarify initial ideas, and organise narrative events more efficiently during

the early stages of adaptation. However, final narrative decisions consistently remained student driven. For instance, participant 1 explained:

“AI-generated suggestions were useful for starting ideas but not suitable without changes, highlighting the need for active revision.”

Similarly, participant 12 emphasised:

“AI outputs required careful modification to maintain narrative coherence, stating that the story would not make sense if I didn’t rewrite the AI sentences.”

These responses demonstrate that students did not depend on AI to generate their narratives. Instead, they used AI as a mediating tool to stimulate thinking, organise structure, and support revision while retaining authorial control over meaning and content. Overall, the use of AI-based text and content generation tools supported students’ analytical engagement with narrative construction, enabling them to externalise abstract ideas, plan multimodal scenes more systematically, and refine their writing through iterative revision. These findings suggest that AI tools were employed as scaffolding mechanisms that complemented, rather than replaced, students’ narrative writing processes.

4.1.2 AI-Based Visual Generation

The findings indicate that AI-based visual generation tools played a central role in supporting students’ translation of narrative meaning into visual representations. The primary tools used for this purpose included ImageFX, Canva, and IbisPaint, each serving distinct yet complementary functions in the multimodal transformation process. Students employed ImageFX to generate initial visual concepts and illustrative scenes based on short narrative prompts derived from their essays. These visuals were commonly used to represent key narrative moments such as setting establishment, character introduction, and major plot developments.

Canva was predominantly utilised for refining visual layouts, adding textual overlays, and ensuring visual coherence across scenes. Document analysis of storyboards and visual drafts revealed that students used Canva to adjust colour schemes, typography, and image sequencing in ways that reflected narrative mood and thematic progression. In contrast, IbisPaint was mainly used by students with higher visual design proficiency to manually edit or enhance AI-generated images, allowing for greater control over details and stylistic consistency.

Reflective journals indicate that students frequently revised AI-generated visuals to better align with their intended meanings. Rather than accepting AI outputs uncritically, students evaluated the appropriateness of images and modified them to reflect cultural specificity and narrative context. For instance, several students reported replacing generic character depictions with visuals that more accurately represented Indonesian cultural settings. Participant 8 wrote in reflective journal:

“The AI gave me pictures that looked different from the village so. I changed them. The images must match my real environment.”

In addition, participant 4 noted:

"I had to adjust the characters' appearance because the AI made them look foreign. I edited the visuals, so they looked more Indonesian."

Interview data further suggest that the visual generation process encouraged students to reconsider how narrative elements could be communicated beyond linguistic description, thereby reinforcing their understanding of narrative structure and meaning making across modes. Interview data further illustrate this evaluative process. Participant 9 explained:

"The images helped me realise that my story setting was not clear enough. When the visuals didn't match, I went back to my essay and added more explanation."

4.1.3 AI-Assisted Video Editing and Multimodal Integration

AI-assisted video editing tools were primarily used to integrate textual, visual, and auditory elements into coherent multimodal narratives. The most frequently employed platforms for this stage were CapCut and Runway. CapCut served as the main editing environment where students combined images, text captions, background music, voice over narration, and transitions. Students reported that CapCut's AI-supported features such as automated timing suggestions, subtitle generation, and scene transitions helped streamline the editing process while maintaining narrative flow. Storyboard analysis showed that students adjusted scene durations after previewing their edited videos. In several cases, long narrative segments were shortened when students noticed that visuals remained on screen for too long without meaningful progression. Participant 7 noted in the reflective journal:

"When I put the pictures and narration together in CapCut, I saw that some parts stayed too long. I cut the scene and revised my paragraph to make it shorter."

Similarly, participant 9 wrote:

"The automatic subtitle feature helped me see my sentences on screen. I realised some sentences were too long to read, so I simplified them."

Observation notes from the editing session recorded frequent peer discussions focused on timing and transitions. One observed comment from a group discussion was *"If this scene takes 10 seconds, the story feels slow. Maybe the paragraph needs to be split."* Interview data further supported this finding. Participant 1 explained:

"CapCut made me think about how my story moves. The transitions between scenes showed whether my ideas connected smoothly or not."

Runway was primarily used when students needed to animate still images or create short motion clips to represent key narrative events. Participant 6 stated:

"Using Runway to animate the scene made me realise which moment in my story was the most important."

Document comparison between the initial storyboard and final video versions showed multiple revisions in scene order, duration, and caption wording,

indicating that the editing process directly influenced textual revision. These data demonstrate that AI-assisted editing tools did not merely support technical production but also functioned as instruments for students to evaluate narrative pacing, coherence, and meaning across modes.

Runway was used selectively to generate short animated sequences and apply AI-enhanced visual effects that supported narrative emphasis, particularly during climactic or emotionally significant scenes. Document analysis of final video products shows that Runway generated elements were used sparingly and strategically, suggesting that students prioritised narrative clarity. YouTube functioned as a publishing and sharing platform, enabling peer viewing, feedback, and reflection. Observational data indicate that peer-review sessions centred on video playback prompted discussion not only about visual quality but also about narrative coherence, pacing, and audience comprehension.

Interview data revealed that the integration phase heightened students' awareness of how different semiotic modes interact to convey meaning. Several students noted that synchronising visuals with narration and music made narrative weaknesses more apparent, prompting further textual revision. This multimodal integration process thus served as both a compositional and reflective activity, reinforcing students' understanding of narrative organisation and audience engagement. Participant 2 explained during the interview:

"When I added my voice and background music, I realised some parts of my story felt empty. The visuals and sound made the weakness of my writing very obvious."

Similarly, participant 8 stated:

"The music and images helped me feel the story. When the feeling didn't match, I knew I had to revise my paragraph."

Reflective journal entries echoed this experience, participant 10 wrote:

"After combining narration and images, I could hear where my story was unclear. I went back to my essay to improve the explanation."

Observation notes from the editing sessions also recorded students replaying their videos repeatedly while discussing whether the scenes, narration, and music conveyed the intended meaning. These data indicate that multimodal integration acted as a reflective mechanism through which students reassessed the clarity, coherence, and emotional impact of their narratives across semiotic modes. These findings demonstrate that AI-assisted video editing tools functioned as integrative scaffolds, enabling students to synthesise multiple modes into cohesive narratives while maintaining authorial control over meaning. The use of AI at this stage supported iterative revision and reflective learning rather than passive content production.

4.2 Students' Writing Comprehension and Development

4.2.1 Enhanced Understanding of Narrative Structure

Analysis of documents and student reflections indicates that multimodal video representation enhanced students' understanding of narrative structure. When

students transformed their narrative essays into multimodal videos, abstract components such as orientation, complication, climax, and resolution became more explicit through scene segmentation. Document analysis revealed that post-transformation essays demonstrated clearer event sequencing and more distinct narrative stages compared to initial drafts.

Table 1: Improved narrative structure after multimodal transformation

Participant	Issue in Initial Essay (Pre-transformation)	Evidence from Video Storyboard	Improvement in Revised Essay (Post-transformation)
Group 1	Long orientation, unclear conflict	Orientation divided into two scenes; conflict highlighted as separate visual scene	Clear separation between background and conflict; conflict elaborated in a new paragraph
Group 2	Climax missing, story ended abruptly	All scene segmentation required a "peak moment" scene	Added a distinct climax paragraph before resolution
Group 3	Events presented as description rather than sequence	Scenes reordered chronologically in storyboard	Events rewritten in logical time sequence
Group 4	Resolution too brief and unclear	Resolution shown as final scene with narration	Expanded resolution with reflective explanation

Reflective journals further show that students became more aware of imbalances in narrative structure, such as underdeveloped climaxes or extended expository sections. Participant 5:

"When I had to divide my story into scenes, I realised my climax was not clear. The video forced me to show the most important moment."

Participant 8: *"I saw that my story was too much explanation and not enough real events. I changed the order after making the storyboard."*

Participant 11: *"The scene order in the video helped me understand orientation, problem, and ending better than just reading my essay."*

Interview data corroborate these findings, with students reporting that visualizing their narratives helped them recognize structural weaknesses that were not apparent during text-only revision. Participant 3:

"When I watched my story as a video, I could see where the story jumped too fast. It was easier to notice than when I read the essay." Participant 5:

"The visuals made me realise that my story didn't have a strong turning point. I added one in my revision."

4.2.2 Improved Narrative Coherence and Flow

The findings also reveal improvements in narrative coherence and flow following the multimodal transformation process. Comparative document analysis showed that post-transformation essays contained smoother transitions between events and more focused narrative progression.

Table 2: Improved narrative coherence and flow after multimodal transformation

Participant	Coherence Issue in Initial Essay	Observation During Video Editing	Revision in Post-transformation Essay
Group 1	Abrupt shift between events	Student adjusted scene timing and added transition slide	Added transitional sentences linking events
Group 2	Too long explanation in one event	Scene appeared visually monotonous and too long	Condensed paragraph and focused on key action
Group 3	Weak connection between conflict and resolution	Student discussed pacing and reordered scenes	Rewrote resolution to directly refer to conflict
Group 4	Repetitive narration across events	Repeated visuals made redundancy obvious	Removed repetitive sentences and varied expressions

Classroom observations indicated that students frequently discussed pacing and scene duration while editing their videos, suggesting heightened awareness of narrative flow. Several students paused video playback and discussed whether certain scenes were “too long” or “too fast,” indicating active consideration of narrative pacing. Students frequently adjusted image duration and narration timing, followed by revising their essays to match the revised pacing of the video.

Reflective journals further indicate that prolonged or visually monotonous scenes prompted students to revise or condense corresponding textual sections. These findings suggest that synchronising visual, textual, and audio elements enabled students to evaluate coherence more critically and revise their writing. Participant 6: *“When the picture stayed too long on the screen, I realised my paragraph was also too long and boring. I shortened it.”* Participant 2: *“I added sentences like ‘after that’ and ‘then’ because the video scenes needed connection.”* Participant 9: *“I saw that my ending did not connect clearly to the problem, so I rewrote it after watching the video.”*

4.2.3 Heightened Audience Awareness and Meaning Clarity

Multimodal video representation also contributed to heightened audience awareness and improved meaning clarity. Document analysis confirms that post-transformation essays included clearer contextual framing and more explicit narrative focus. Importantly, these revisions enhanced clarity without shifting the genre toward descriptive or expository writing, maintaining the integrity of narrative form.

Table 3: Heightened audience awareness and meaning clarity

Participant	Issue in Initial Essay	Evidence from Peer-Review / Video Viewing	Revision in Post-transformation Essay
Group 1	Lack of background context for the setting	Peer asked, "Where does this happen?" during video viewing	Added orientation paragraph explaining place and situation
Group 2	Cultural reference unclear to peers	Student explained meaning of a local term during discussion	Replaced local term with brief contextual explanation
Group 3	Narrative purpose not explicit	Peers reported confusion about the lesson of the story	Added closing sentences clarifying the narrative message
Group 4	Events felt disconnected for viewers	Student noted peers' difficulty following the storyline	Inserted clearer sequencing and contextual cues

Interview and journal data indicate that viewing narratives as videos, particularly during peer-review sessions, encouraged students to adopt the perspective of an audience rather than that of an author alone. Students reported becoming more attentive to background information, cultural references, and narrative purpose to ensure audience comprehension.

Participant 4:

"When my friends watched the video, they asked about the place in the story. I realised I did not explain it clearly in my essay."

Participant 7:

"The video made me think like a viewer, not the writer. I saw that some parts were confusing for others."

Participant 1:

"I added more explanation at the beginning because my friends did not understand the background of my story."

Participant 10:

"Watching it as a video made me realise that the story must be clear for people who do not know my experience."

Participant 7:

"I revised my essay after the peer session because they could not understand the message of my story."

4.3 Students' Learning Experiences with AI-enhanced Multimodal Writing

4.3.1 Increased Motivation and Engagement in Writing Tasks

The findings indicate that students demonstrated increased motivation and engagement when participating in AI-enhanced multimodal writing tasks. Reflective journals further suggest that the opportunity to transform written

narratives into shareable video products enhanced students' sense of purpose and strengthened their commitment to revision.

Table 4: Increased Motivation and Engagement in AI-Enhanced Multimodal Writing Tasks

Participant	Evidence from Reflective Journal	Observation During Class	Evidence from Interview	Indication of Motivation
P3	Expressed excitement about turning essay into video	Worked beyond allocated time refining visuals	"I wanted my video to be good because everyone would watch it."	Strong commitment to revision
P5	Wrote about feeling "more serious" about editing	Actively discussed scene choices with peers	"The video made my story feel important."	Increased sense of purpose
P8	Reported enjoying the creative process	Frequently replayed video to check quality	"I revised many times because I wanted the result to be interesting."	Sustained engagement
P10	Mentioned pride in shareable output	Volunteered to present video in class	"This is the first time I enjoyed revising my essay."	Positive emotional engagement

Classroom observations documented sustained on-task behavior during multimodal production sessions, with students actively negotiating narrative decisions and visual representations. Observation notes indicate that students remained on task throughout the session, repeatedly previewing videos and discussing improvements without prompting from the lecturer. Several groups voluntarily stayed after class to complete their video editing and revise captions. Participant 10: *"The video made my writing feel meaningful. I cared more about the result."* In addition, participant 5: *"This activity was more enjoyable than just writing paragraphs."* Comparison of essay drafts showed multiple revision layers (added sentences, restructured paragraphs, rewritten endings) that were completed after the multimodal production phase, indicating that motivation translated into concrete revision efforts.

Interview data further suggest that the visibility of a real audience, particularly during peer-viewing sessions, encouraged students to invest greater effort in refining their narratives. Students frequently described the multimodal tasks as more meaningful and enjoyable than traditional text-only writing activities, which contributed to their willingness to revise and improve their work. Participant 8 mentioned that *"I usually don't like revising essays but making it into a video made me want to improve it."* In addition, participant 5 noted *"Knowing that my friends would watch my video made me more careful with my writing."* Participant 3 also mentioned *"This task felt different because the result was something I could show, not just submit."*

4.3.2 Development of Critical AI and Digital Literacy Awareness

Students' learning experiences also reflected the development of critical AI and digital literacy awareness. Journal reflections suggest that students became more attentive to issues of AI reliability, ethical use, and content ownership. Interview

data further indicate that students learned to interrogate the suitability of AI-generated outputs and to evaluate their relevance to narrative meaning and audience expectations. Rather than accepting AI suggestions uncritically, students demonstrated an increasing recognition of the need for human judgement in multimodal composition. Collectively, these experiences extended students' understanding of digital literacy beyond writing mechanics to include critical engagement with AI technologies.

Table 5: Critical AI and Digital Literacy Development

Participant	Evidence from Reflective Journal	Evidence from Interview	Observable Behaviour/ Document Evidence	Indication of Critical AI Literacy
P4	Reflected on checking AI outputs for accuracy	"AI is helpful, but not always correct for my story."	Edited AI-generated captions before use	Evaluating AI reliability
P6	Mentioned concerns about copyright of images	"I had to choose images carefully to avoid misuse."	Replaced AI images with self-modified visuals	Ethical awareness
P9	Wrote about adapting AI suggestions to fit narrative	"I cannot use AI ideas directly; they must match my meaning."	Annotated storyboard with revisions	Human judgement over AI
P11	Noted AI sometimes produced culturally inappropriate visuals	"The AI does not understand my culture, so I changed it."	Modified visuals to reflect local context	Contextual evaluation

5. Discussion

This study investigated how AI-facilitated transformation of narrative essays into multimodal videos influences EFL students' academic writing literacy. The findings indicate that AI-mediated multimodal transformation supported students' writing development in Enhanced Understanding of Narrative Structure, Improved Narrative Coherence and Flow, and Heightened Audience Awareness and Meaning Clarity. These results are consistent with prior studies highlighting the pedagogical potential of AI and multimodal approaches in writing instruction (Zhang & Yu, 2022; Zheng et al., 2024).

From a theoretical perspective, the findings extend multimodal literacy theory by demonstrating that transforming existing monomodal texts into multimodal representations can function as a metacognitive activity. In contrast to studies that emphasize multimodal composition from the initial stages of writing (Jiang & Lai, 2025), the present study shows that the transformation process itself encourages critical re-evaluation of narrative structure, coherence, and meaning. Through deconstructing and reconstructing their narratives, students were prompted to reflect more deeply on how ideas are organized and communicated.

The results also align with sociocultural theory, which highlights the mediating role of tools in cognitive development. In this study, AI platforms did not simply automate production processes; instead, they operated as mediational resources that supported analytical thinking through segmentation, visualization, and synthesis. This interpretation is consistent with Cai et al. (2024), who argue that

AI can contribute to academic development when it complements, rather than replaces, pedagogical practice. Importantly, the findings suggest that the educational value of AI lies not in the technology itself, but in how it is pedagogically positioned to support learners' meaning-making processes.

In relation to cognitive theory, the findings suggest a more nuanced understanding of multimodal learning. While managing multiple modes could increase extraneous cognitive load, the AI-supported visualization of narrative structure appeared to reduce the cognitive burden associated with abstract reasoning. This created a productive form of germane cognitive load that supported deeper analytical engagement. At the same time, the findings resonate with recent concerns that excessive cognitive offloading through AI may limit critical thinking if learners rely uncritically on automated outputs (Gerlich, 2025; Gligorea, et al., 2023; Syarifah & Fakhrudin, 2024). In this study, however, students' active evaluation and modification of AI-generated suggestions mitigated such risks.

The findings also carry important implications for EFL writing pedagogy in digital learning contexts. The results suggest that AI-mediated multimodal transformation should be positioned as a complementary instructional strategy rather than a substitute for conventional writing instruction. By making narrative structure more explicit, the transformation process supported learners' internalization of key writing concepts, reinforcing earlier work on revision-oriented approaches to writing development (Zhang & Yu, 2022).

Furthermore, the collaborative dimension of multimodal transformation underscores the continued relevance of social learning theories in AI-enhanced classrooms. Peer interaction during planning, production, and viewing stages facilitated metalinguistic reflection and collective meaning-making, aligning with Zheng et al. (2024) on AI-supported collaborative knowledge construction. These findings indicate that AI integration is most pedagogically effective when embedded within socially interactive learning environments.

From a curricular perspective, the study highlights the importance of integrating critical AI literacy alongside technical competencies. While AI tools provide efficiency and creative affordances, they also introduce risks related to dependency, reduced creativity, and diminished critical engagement. The present findings suggest that when students are guided to critically evaluate, adapt, and, when appropriate, reject AI-generated content, AI use can support rather than constrain higher-order thinking. Without such pedagogical scaffolding, however, there remains a risk that AI integration may lead to superficial engagement or overreliance on automated outputs.

Several limitations of this study should be acknowledged. First, the research was conducted over a single academic semester, which restricts insights into the long-term effects of AI-mediated multimodal transformation on students' writing development. Second, the study was situated within a specific Indonesian EFL context, which may limit the transferability of the findings to other educational

and cultural settings. Third, the absence of a control group makes it difficult to isolate the effects of AI-mediated transformation from other instructional factors.

Despite these limitations, the findings are strengthened by the use of methodological triangulation and the collection of rich qualitative data from multiple sources. Future research could adopt longitudinal or quasi-experimental designs to examine sustained learning outcomes and explore clearer causal relationships. Further studies are also encouraged to investigate the application of AI-mediated multimodal transformation across other academic writing genres, such as argumentative or research-based writing, as well as pedagogical strategies for minimizing learner dependency while fostering critical engagement with AI technologies.

This study contributes to the growing body of research on AI-enhanced language education by extending multimodal literacy theory and sociocultural perspectives on writing development. The findings demonstrate that AI-mediated transformation of monomodal texts into multimodal representations can function as a metacognitive scaffold, enabling learners to externalize and critically re-examine narrative structure, coherence, and audience orientation. In contrast to prior research that emphasizes multimodal composition from the outset, this study highlights the pedagogical value of revisiting existing texts through AI-supported multimodal reconfiguration, positioning transformation as a distinct and meaningful phase within the writing process.

Furthermore, the findings refine understandings of AI as a mediational tool within sociocultural theory. Rather than functioning merely as an automated assistant, the AI platforms examined in this study operated as cognitive mediators that prompted analytical engagement, particularly through the segmentation, visualization, and synthesis of narrative elements. This contribution also nuances prevailing concerns about cognitive offloading by demonstrating that guided and critical use of AI can elicit productive cognitive effort, thereby supporting deeper learning rather than diminishing it.

Pedagogically, this study provides empirically grounded guidance for integrating AI and multimodal approaches into EFL writing instruction. It argues that AI-mediated multimodal transformation can be implemented as a complementary instructional strategy that strengthens learners' understanding of core writing concepts especially narrative organization and revision rather than replacing text-based instruction. The study further highlights the value of collaborative multimodal tasks in fostering metalinguistic discussion, peer learning, and sustained engagement in AI-enhanced learning environments

Importantly, the findings emphasize the need to embed critical AI literacy and differentiated scaffolding within writing pedagogy. While AI tools can enhance motivation and creative engagement, uncritical reliance may risk dependency and reduced agency. By encouraging students to evaluate, adapt, and sometimes reject AI-generated outputs, educators can leverage AI to cultivate critical thinking, authorial ownership, and digital literacy. These pedagogical insights have direct

implications for curriculum development, suggesting that EFL writing curricula should integrate AI-supported multimodal practices that align with learners' proficiency levels and the communicative demands of digital era literacy.

6. Conclusion

This study examined the integration of Artificial Intelligence (AI) in transforming narrative essays into multimodal videos as a pedagogical approach to enhancing EFL students' academic writing literacy. The findings demonstrate that AI-mediated multimodal transformation is not merely a technological enhancement but a pedagogically meaningful process that supports students' metacognitive awareness, narrative structural understanding, strategic revision practices, and engagement with writing. Through the systematic transformation of written narratives into multimodal representations, students were encouraged to critically re-examine their texts, resulting in improved narrative coherence, clearer event sequencing, and heightened audience awareness.

The study further shows that the multimodal transformation process created learning opportunities that traditional text-based revision alone does not readily afford. Visualizing narratives through AI-supported videos enabled students to identify structural weaknesses, reconsider narrative focus, and revise their writing more purposefully. In addition, the collaborative nature of the transformation process fostered rich metalinguistic discussions, reinforcing the social dimension of writing development and supporting deeper engagement with narrative craft. These outcomes suggest that AI-enhanced multimodal approaches can help address persistent challenges in EFL writing instruction, particularly students' limited motivation to revise and sustain engagement in extended writing tasks.

At the same time, the findings highlight critical considerations for responsible implementation. Differences in cognitive load across proficiency levels underscore the need for differentiated scaffolding, while students' interactions with AI-generated content point to the importance of developing critical AI literacy. Without pedagogical guidance, AI integration risks fostering dependency or superficial engagement. However, when students are encouraged to evaluate, adapt, and sometimes reject AI outputs, AI can function as a mediational tool that supports, rather than undermines, creativity and critical thinking. The emergent pedagogical framework proposed in this study offers practical guidance for educators seeking to balance AI affordances with core writing objectives.

Despite its contributions, this study is limited by its single-semester duration, small sample size, and context-specific setting within Indonesian higher education. Nevertheless, the use of methodological triangulation and in-depth qualitative analysis strengthens the credibility of the findings. Future research should explore the long-term effects of AI-mediated multimodal transformation, its application to other academic writing genres, and its adaptability across diverse cultural and educational contexts. As AI technologies continue to evolve, thoughtfully integrating AI-supported multimodal practices with sound

pedagogical principles offers a promising pathway for developing the complex writing literacies required in the digital era.

7. Conflict of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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