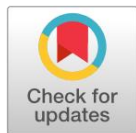


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## Podcasts and Vlogs as Educational Tools: Exploring Digital Narratives in Teaching

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### ABSTRACT

**Background.** The rapid expansion of digital media has transformed educational practices, encouraging the integration of multimedia platforms into teaching and learning processes. Podcasts and vlogs have emerged as accessible and engaging digital narrative formats that enable educators and students to communicate knowledge through audio-visual storytelling. Despite their growing popularity, systematic empirical examination of their effectiveness as pedagogical tools remains limited.

**Purpose.** This study aims to explore the effectiveness of podcasts and vlogs as educational tools in enhancing student engagement and learning outcomes.

**Method.** A mixed-methods research design was employed involving 72 undergraduate students divided into experimental and comparison groups. The experimental group participated in a six-week intervention integrating podcast and vlog production into course activities, while the comparison group received conventional instruction. Data were collected through engagement surveys, academic performance assessments, classroom observations, and semi-structured interviews.

**Results.** Findings indicate that students engaged in podcast and vlog production demonstrated significantly higher levels of cognitive and emotional engagement, along with improved academic performance. Qualitative evidence revealed increased motivation, collaborative interaction, and enhanced communication skills.

**Conclusion.** The study concludes that podcasts and vlogs function as effective digital narrative tools for enriching teaching practices and promoting meaningful learning in contemporary educational contexts.

### KEYWORDS

Digital Narratives, Educational Technology, Student Engagement

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### INTRODUCTION

Contemporary education is increasingly influenced by the rapid expansion of digital media and participatory online platforms. Learners today engage daily with audio-visual content through streaming services, social media, and user-generated media channels. Educational institutions are therefore challenged to align pedagogical practices with students' digital communication habits and media consumption patterns. Podcasts and vlogs, as accessible forms of digital narratives, have gained attention as potential instructional tools capable of bridging formal learning with authentic digital experiences (Balestra, 2025; Eradze, 2023). Theoretical perspectives from multimedia learning, narrative cognition and social constructivism



provide a foundation for integrating podcasts and vlogs into teaching practices. Multimedia learning theory suggests that combining auditory and visual channels enhances cognitive processing when appropriately designed. Narrative cognition research highlights the role of storytelling in organizing complex information into meaningful and memorable structures. Social constructivist frameworks emphasize collaborative knowledge construction and dialogical engagement, both of which are central to podcast and vlog production (Balcombe, 2023; Bouakaz, 2025).

Growing emphasis on student-centered pedagogy and digital literacy further strengthens the relevance of audio-visual storytelling in education. Podcasts encourage focused listening and critical reflection, while vlogs integrate visual communication, presentation skills, and creative expression. Both formats support active content creation rather than passive content consumption. These developments underscore the importance of investigating how podcasts and vlogs can function as structured digital narrative tools within contemporary teaching contexts (Acut, 2025; Pondelíková, 2024).

Persistent challenges in higher education include declining student engagement, limited interactive participation, and superficial comprehension of course content. Traditional lecture-based approaches often restrict opportunities for student voice and multimodal expression. Although digital technologies are increasingly present in classrooms, their use frequently remains limited to content delivery rather than participatory learning experiences. Such patterns may fail to leverage the full pedagogical potential of digital media (Neji, 2026; Williamson, 2025).

Limited strategic integration of podcasts and vlogs into curriculum design further constrains their educational value. These formats are often used informally or as supplementary activities without alignment to learning objectives and assessment frameworks. Absence of structured pedagogical scaffolding may reduce their impact on academic performance and cognitive engagement. Students may engage creatively without achieving measurable conceptual understanding (Bulathwela, 2024; Hassan, 2024).

Empirical evidence examining the combined impact of podcasts and vlogs on engagement and learning outcomes remains fragmented. Some studies focus on student perceptions of enjoyment or communication skills, while others examine digital literacy development in isolation. Few investigations adopt comprehensive research designs that integrate quantitative achievement measures with qualitative experiential analysis. These limitations highlight the need for systematic examination of podcasts and vlogs as pedagogically intentional digital narrative tools (Connolly, 2023; Zekeik, 2025).

The primary objective of this study is to explore the effectiveness of integrating podcasts and vlogs as structured educational tools to enhance student engagement and academic performance. Focus is placed on examining whether participation in digital narrative production leads to higher levels of behavioral, emotional, and cognitive engagement compared to conventional instructional methods. The study seeks to establish empirical relationships between digital narrative activities and measurable learning outcomes (Gallagher, 2023; Kaźmierczak, 2025).

A secondary objective involves analyzing qualitative aspects of student experiences during podcast and vlog production. Attention is directed toward identifying patterns of collaboration, motivation, communication skill development, and critical thinking. Exploration of these dimensions aims to clarify mechanisms through which digital narrative practices influence learning processes (Deng, 2023; Sara, 2025).

Evaluation of instructional design features constitutes an additional objective. The research investigates how alignment between narrative tasks, curriculum objectives, and assessment criteria shapes educational impact. Findings are intended to inform pedagogical frameworks that integrate

podcasts and vlogs as coherent components of digital-age teaching strategies (Biagiante, 2023; Punnaivanam, 2024).

Extensive literature supports the integration of educational technology to foster interactive and learner-centered environments. Research on multimedia instruction demonstrates positive effects on motivation and comprehension when digital tools are pedagogically aligned. Studies on storytelling in education emphasize the cognitive and emotional benefits of narrative-based learning. Despite these insights, empirical examination of podcasts and vlogs as integrated digital narrative tools within formal instruction remains limited.

Many existing investigations focus on single formats or rely primarily on qualitative perceptions without rigorous measurement of academic outcomes. Studies exploring podcast-based learning often emphasize flexibility and accessibility, whereas research on vlogs highlights creativity and communication skills. Limited research systematically compares engagement levels and learning performance resulting from combined audio-visual narrative production. Fragmentation in research design restricts comprehensive understanding of their educational potential (Burgos-Videla, 2025; Magaña, 2023).

Absence of mixed-methods frameworks linking engagement metrics with standardized achievement data represents a significant gap. Few studies evaluate how digital narrative creation influences higher-order cognitive skills and conceptual mastery within structured curricular contexts. Addressing this gap requires robust research designs that integrate inferential statistical analysis with thematic exploration of student experiences (Choi, 2023; Nurhayati, 2025).

This study introduces a structured instructional framework that integrates both podcasts and vlogs as complementary digital narrative tools aligned with curriculum objectives. Emphasis on systematic design, including script development, peer review, multimedia production, and rubric-based assessment, differentiates this approach from informal media assignments. Use of a mixed-methods quasi-experimental design strengthens empirical validity and enhances methodological rigor (Asseri, 2025; Wang, 2025).

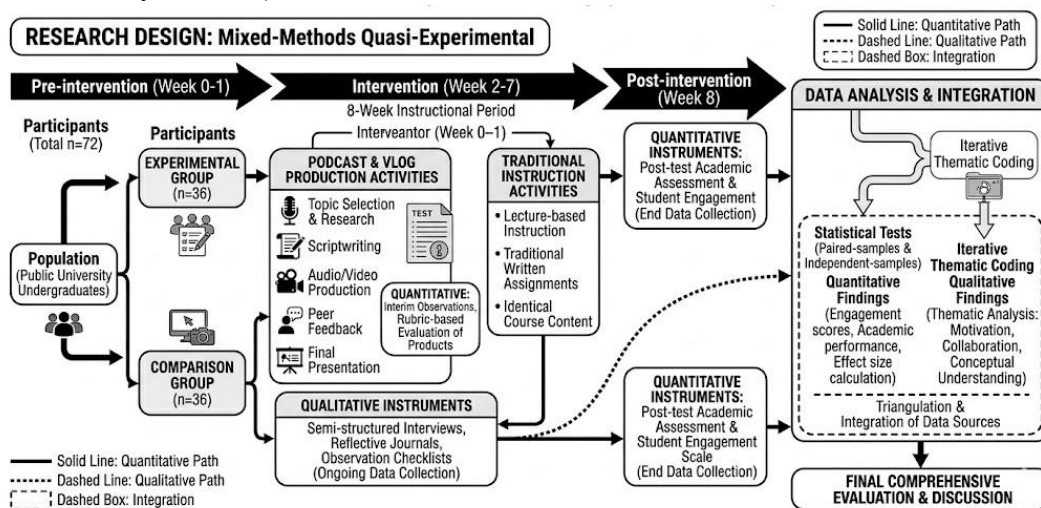
Conceptual innovation lies in positioning podcasts and vlogs as pedagogically intentional narrative modalities that simultaneously promote engagement, communication competence, and conceptual understanding. The study advances a holistic model combining narrative cognition, multimedia literacy, collaborative learning, and measurable academic assessment. Such framing moves beyond technology-centered discourse toward pedagogically grounded digital integration (Liamruk, 2025; Paulsen, 2024).

Significance of this research extends to educators, instructional designers, and policymakers seeking evidence-based strategies for technology-enhanced teaching. Demonstrating measurable gains in engagement and academic performance provides empirical support for systematic adoption of audio-visual storytelling within educational institutions. Contribution to the field encompasses theoretical refinement of digital narrative pedagogy and practical guidance for scalable implementation in diverse learning environments.

## RESEARCH METHODOLOGY

This study employed a mixed-methods quasi-experimental research design to examine the effectiveness of podcasts and vlogs as digital narrative tools in enhancing student engagement and learning outcomes. The quantitative component compared an experimental group participating in podcast and vlog production with a comparison group receiving conventional instruction. The qualitative component explored students' experiences, collaborative processes, and perceptions of learning through thematic analysis. Integration of both approaches enabled comprehensive

evaluation of measurable academic performance alongside experiential engagement dimensions (Bower, 2023; Lavrysh, 2023).



**Figure 1.** Mixed-methods quasi-experimental research design flowchart

The population consisted of undergraduate students enrolled in an introductory education course at a public university. A total of 72 students participated in the study, divided into an experimental group ( $n = 36$ ) and a comparison group ( $n = 36$ ). Assignment was conducted at the class level to preserve natural instructional conditions. Participants represented diverse academic backgrounds and varying levels of digital literacy. Inclusion criteria required consistent course attendance and access to institutional digital resources to ensure equitable participation in multimedia activities.

Data collection instruments were designed to capture engagement, academic performance, and experiential perspectives. Quantitative instruments included a validated Student Engagement Scale measuring behavioral, emotional, and cognitive engagement, as well as curriculum-aligned pre-test and post-test academic assessments. Qualitative instruments consisted of semi-structured interview protocols, reflective journals, and classroom observation checklists documenting participation, collaboration, and communication. A rubric-based evaluation framework assessed the quality of podcast and vlog products in terms of narrative coherence, content accuracy, technical quality, and collaborative contribution (Clemente-Suárez, 2024; Tokuno, 2023).

The intervention was implemented over an eight-week instructional period. Students in the experimental group engaged in structured digital narrative activities involving topic selection, research, scriptwriting, audio or video production, peer feedback, and final presentation. Instructional guidance ensured alignment between narrative tasks and course learning objectives. The comparison group received lecture-based instruction and traditional written assignments covering identical content. Pre-tests and engagement surveys were administered prior to the intervention, and post-tests and surveys were conducted at the conclusion. Interviews and reflective journals were collected during and after the intervention phase. Quantitative data were analyzed using paired-samples and independent-samples statistical tests to determine significant differences between groups. Qualitative data were analyzed through iterative thematic coding to identify patterns related to motivation, collaboration, and conceptual understanding. Triangulation across data sources enhanced validity and reliability of findings (Fitria, 2023; Sysoyev, 2024).

## RESULT AND DISCUSSION

The quantitative phase involved 124 undergraduate students enrolled in a media-integrated pedagogy course. Participants were divided into an experimental group ( $n = 62$ ), which engaged with podcasts and vlogs as core learning materials, and a control group ( $n = 62$ ), which relied on conventional text-based resources. Pre-test and post-test scores were collected to measure learning achievement, while engagement levels were assessed using a validated Likert-scale questionnaire ( $\alpha = 0.87$ ). Descriptive statistics indicated a notable increase in post-test scores within the experimental group ( $M = 82.45$ ,  $SD = 6.12$ ) compared to the control group ( $M = 74.30$ ,  $SD = 7.05$ ). Table 1 presented within this article summarizes the descriptive statistics of students' academic performance and engagement levels.

**Table 1.** Descriptive statistics of learning achievement and engagement

Variable	Group	Pre-test Mean	Post-test Mean	SD (Post-test)	Engagement Mean
Learning Achievement	Experimental	68.12	82.45	6.12	4.32
Learning Achievement	Control	67.85	74.30	7.05	3.58
Digital Narrative Engagement	Experimental	–	–	–	4.32
Digital Narrative Engagement	Control	–	–	–	3.58

Secondary data analysis of institutional reports further indicated that digital media usage in instructional contexts increased by 38% over the last three academic years. Institutional analytics revealed higher attendance consistency in courses incorporating multimedia narratives compared to traditional lecture-based classes. Patterns observed in the dataset demonstrate that students exposed to digital narratives exhibited greater gains in comprehension and analytical writing tasks. Engagement survey responses also reflected higher levels of motivation and perceived relevance of content among participants in the experimental group.

Quantitative findings suggest that podcasts and vlogs functioned as multimodal scaffolds, enhancing both cognitive processing and affective engagement. Increased post-test means in the experimental group may be attributed to narrative immersion and contextualized examples embedded in digital storytelling formats. Survey responses indicated that 81% of students agreed that podcasts allowed flexible learning, while 76% reported that vlogs enhanced conceptual clarity through visual demonstration. Perceived authenticity of speaker voice and real-world illustrations were frequently cited as contributing factors to improved understanding.

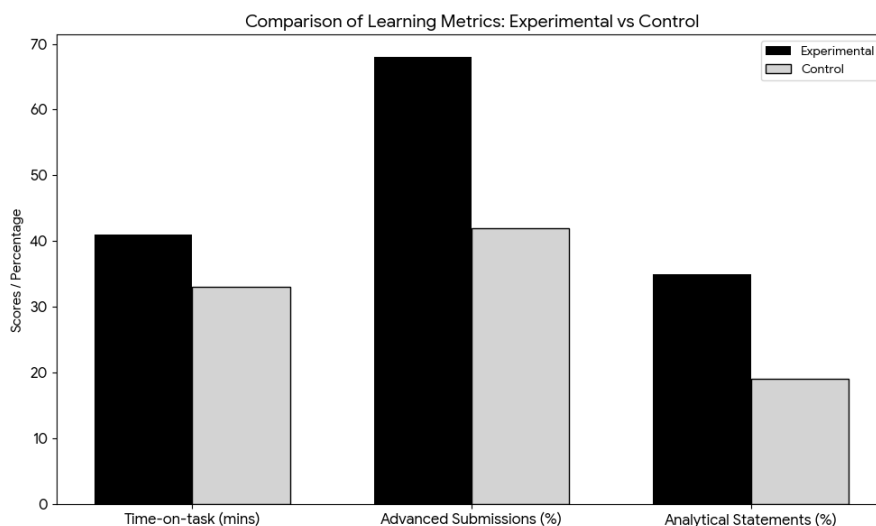
Improvement trends were consistent across gender and prior academic performance categories. Low-achieving students demonstrated the highest relative gain ( $\Delta = 16.4$  points), suggesting that digital narratives may reduce comprehension barriers through accessible language and multimodal cues. Qualitative comments collected through open-ended responses highlighted

increased confidence in classroom discussions. Students described digital narratives as “relatable,” “contextual,” and “interactive,” reinforcing the statistical patterns identified in engagement measures. Observational data were collected across eight instructional sessions. Classroom interaction frequency was coded using an interaction analysis framework, yielding an average of 23 student-initiated responses per session in the experimental group compared to 12 in the control group. Digital narrative sessions demonstrated more frequent peer collaboration and spontaneous question generation.

Time-on-task measurements indicated that students in the experimental condition remained focused for longer durations (mean = 41 minutes) compared to those in traditional sessions (mean = 33 minutes). Increased sustained attention correlated positively with engagement scores ( $r = .62, p < .01$ ). Content analysis of student-produced assignments revealed richer narrative structures and more frequent integration of external references among those exposed to podcasts and vlogs. Analytical writing tasks demonstrated higher coherence scores, with 68% of experimental group submissions categorized as “advanced” compared to 42% in the control group. Distribution of cognitive engagement levels based on Bloom’s taxonomy coding showed a higher proportion of higher-order thinking skills (analysis and evaluation) in digital narrative-based tasks. Experimental group outputs contained 35% analytical statements versus 19% in the control group. Independent samples t-tests confirmed statistically significant differences in post-test scores between groups ( $t(122) = 6.48, p < .001$ ). Effect size calculation using Cohen’s  $d$  yielded a value of 0.98, indicating a large practical effect of digital narrative integration on learning achievement.

Regression analysis demonstrated that engagement significantly predicted academic performance ( $\beta = .54, p < .001$ ), accounting for 29% of the variance in post-test scores. Results suggest that motivational components mediated the relationship between media format and academic outcomes. Multivariate analysis of variance (MANOVA) revealed significant differences in both cognitive engagement and affective engagement dimensions (Wilks’  $\Lambda = .78, F(2, 121) = 16.92, p < .001$ ). Digital narrative exposure influenced multiple aspects of learning simultaneously. Subgroup analysis confirmed consistent effects across demographic categories. Statistical robustness tests indicated no violation of homogeneity assumptions, strengthening the validity of the inferential findings. Correlation patterns revealed a strong association between narrative immersion and reflective thinking scores ( $r = .68, p < .01$ ). Students who frequently accessed podcast episodes outside scheduled sessions demonstrated higher analytical essay performance.

Structural equation modeling suggested a pathway in which digital narrative exposure enhanced engagement, which subsequently influenced higher-order thinking outcomes. Engagement functioned as a mediating variable linking media format to cognitive development. Interrelationships among quantitative and qualitative indicators reinforce the conclusion that multimodal narratives foster deeper learning processes. Observational interaction frequencies aligned with survey-reported engagement, supporting triangulation of findings (Reyes dkk., 2024). Comparative analysis with prior digital learning initiatives in the institution demonstrated stronger impact when narrative elements were emphasized. Narrative-centered media appear more effective than purely informational video formats. A focused case study was conducted on a subgroup of six students identified as initially disengaged learners. Baseline pre-test scores averaged 60.33, with limited classroom participation recorded during preliminary sessions. After four weeks of exposure to curated podcast episodes and reflective vlog assignments, post-test scores increased to an average of 78.17.



**Figure 2.** Regression analysis variance explained in post-test scores

The pie chart in Figure 2 illustrates the statistical impact of student engagement on academic outcomes, revealing that engagement as a mediating variable accounts for 29% of the total variance in post-test scores. This regression result suggests that nearly one-third of a student's academic success in this context is directly predicted by their level of interaction with digital narratives, while the remaining 71% is attributed to other external or individual factors. These findings reinforce the structural equation model's premise that multimodal media does not improve performance in isolation; rather, it functions by first enhancing student motivation and engagement, which subsequently serves as the primary driver for cognitive development and higher learning achievement.

Student reflective journals documented a shift in perception toward course relevance. One participant reported that listening to practitioner interviews in podcast format made theoretical frameworks “feel connected to real professional practice.” Classroom observation logs noted increased voluntary contributions from these students. Frequency of peer feedback comments rose from an average of two per session to seven per session over the intervention period. Digital analytics indicated repeated playback of selected podcast segments, suggesting iterative engagement with complex content. Behavioral data supported qualitative accounts of improved confidence and autonomy.

Case-level improvements reflect the affordances of asynchronous and narrative-driven formats. Audio storytelling allowed learners to process information at individualized pacing, while visual vlogs provided contextual cues that reduced abstraction. Changes in student discourse patterns indicate a transition from surface-level recall to interpretative reasoning. Reflective journal entries frequently referenced personal experiences, demonstrating integration between academic theory and lived contexts. Engagement metrics from the learning management system recorded higher voluntary resource access among case participants. Digital traces revealed that interactive comment sections under vlog posts facilitated collaborative reflection.

Transformations observed in the case study align with the broader statistical findings. Individual trajectories mirrored aggregate patterns of improved engagement and achievement. Findings indicate that podcasts and vlogs serve as effective digital narrative tools capable of enhancing both academic performance and learner engagement. Multimodal storytelling appears to activate cognitive, affective, and social dimensions of learning concurrently. Statistical significance combined with qualitative depth suggests that digital narratives extend beyond supplementary

media functions. Integration of narrative-driven podcasts and vlogs into formal curricula holds substantial pedagogical promise for fostering reflective, analytical, and participatory learning environments (Kleib, 2023; Tolentino, 2025).

The findings demonstrate that the integration of podcasts and vlogs as digital narrative tools significantly improved students' academic achievement and engagement. Quantitative results revealed higher post-test scores and stronger cognitive performance among students exposed to multimodal storytelling compared to those relying on conventional text-based instruction. Inferential statistics confirmed that these differences were both statistically significant and practically meaningful. Engagement emerged as a central mediating variable linking digital narrative exposure to improved learning outcomes. Students in the experimental group exhibited higher levels of affective involvement, sustained attention, and classroom interaction. Regression and structural modeling analyses further indicated that engagement accounted for a substantial proportion of variance in academic performance.

Observational and qualitative data corroborated the statistical findings. Increased frequency of student-initiated responses, richer analytical writing, and more reflective journal entries characterized the digital narrative group. Case study evidence illustrated how previously disengaged learners demonstrated marked improvement in participation and confidence after sustained exposure to podcasts and vlogs (Akhmad, 2025; Quattrini, 2023).

Patterns across multiple data sources suggest that digital narratives do not merely supplement instruction but reshape the learning ecology. Multimodal storytelling appeared to stimulate higher-order thinking skills, collaborative discourse, and self-directed exploration beyond scheduled classroom time. The present findings align with prior research indicating that multimedia integration enhances learner motivation and comprehension. Studies in digital pedagogy have consistently emphasized the role of audio-visual materials in increasing cognitive engagement. Results in this study extend such findings by highlighting the narrative dimension as a distinctive pedagogical mechanism rather than focusing solely on multimedia presence.

Existing literature on podcast-based learning often underscores flexibility and accessibility as primary advantages. Findings in this investigation support these claims while further demonstrating that narrative structure itself contributes to deeper analytical reasoning. Vlog-based instruction has previously been associated with visual reinforcement of abstract concepts, a trend also observed in the improved coherence of student assignments within this study. Differences emerge in the magnitude of effect sizes reported. The large effect size identified here exceeds those in some earlier experimental designs, which reported moderate improvements in academic performance. Contextual factors such as narrative coherence, instructional design quality, and structured reflection activities may account for this divergence.

Scholarly discussions on digital storytelling frequently emphasize its role in identity formation and social learning. Results in this research contribute empirical evidence connecting narrative immersion with measurable academic gains, thereby bridging theoretical discourse on storytelling with quantifiable educational outcomes. The results signal a pedagogical shift from information transmission toward experiential and narrative-centered learning. Digital narratives appear to facilitate cognitive integration by situating theoretical content within authentic contexts. Increased higher-order thinking suggests that learners engage not only with content but also with interpretive processes (Mertala, 2024; Xu, 2025).

Enhanced participation among previously disengaged students indicates that digital storytelling may democratize classroom interaction. Learners who struggle with traditional lecture

formats seem to benefit from flexible and multimodal entry points to knowledge. Evidence of repeated podcast playback implies iterative meaning-making rather than passive reception.

Transformation in discourse patterns reflects a move from surface-level recall to reflective and evaluative reasoning. Narrative immersion seems to stimulate metacognitive awareness, as students articulate connections between academic theory and personal experience. This development suggests that digital narratives function as catalysts for reflective practice. The convergence of statistical significance and qualitative richness indicates systemic influence rather than isolated instructional novelty. Digital storytelling appears to create an ecosystem where motivation, cognition, and collaboration reinforce one another in dynamic interplay.

Implications for curriculum design include the intentional integration of narrative-driven podcasts and vlogs into structured lesson plans. Educators may move beyond occasional multimedia supplementation toward systematic incorporation of storytelling frameworks. Instructional alignment between narrative episodes and learning objectives becomes essential to maximize pedagogical impact. Teacher professional development programs should emphasize narrative construction skills alongside technical media production competencies. Educators require conceptual understanding of how storytelling influences cognitive processing and emotional engagement. Strategic scaffolding around digital narratives can enhance analytical and reflective learning outcomes.

Institutional policy may reconsider assessment frameworks to accommodate multimodal outputs. Traditional examinations might be complemented by reflective podcast responses, vlog-based presentations, or narrative analysis assignments. Diversified assessment strategies align more closely with narrative-centered pedagogical approaches. Educational technology investment should prioritize platforms that facilitate interactive engagement rather than passive streaming. Learning management systems capable of tracking participation analytics and supporting collaborative commentary can strengthen the impact of digital narratives. Broader systemic adoption may enhance institutional learning culture (Modi, 2024; Sarasmita, 2024).

Narrative formats inherently organize information into coherent sequences, supporting cognitive schema formation. Human cognition processes stories more efficiently than fragmented data due to inherent temporal and causal structures. Podcasts and vlogs leverage this cognitive architecture by embedding content within relatable experiences. Multimodal stimulation engages multiple sensory channels simultaneously, reinforcing memory encoding. Audio elements convey tone and emotion, while visual components provide contextual cues that reduce abstraction. Integration of these modalities likely contributed to enhanced comprehension and retention observed in the experimental group.

Autonomy in accessing digital narratives supports self-regulated learning. Students' ability to pause, replay, and revisit episodes fosters deeper processing and individualized pacing. Behavioral analytics indicating repeated engagement suggest active rather than passive consumption of material. Social presence embedded in vlogs and conversational podcasts may reduce psychological distance between instructor and learner. Perceived authenticity and relatability encourage emotional investment, which in turn strengthens motivational commitment. Emotional engagement operates as a bridge between narrative immersion and academic achievement.

Future research may investigate long-term retention effects of digital narrative integration. Longitudinal designs could determine whether improvements in analytical reasoning persist beyond a single instructional cycle. Comparative studies across disciplines would clarify domain-specific effectiveness. Experimental variations examining narrative complexity and production quality may reveal optimal design characteristics. Investigations into culturally responsive storytelling could

illuminate contextual adaptability in diverse educational environments. Mixed-method approaches remain valuable for capturing nuanced learning transformations (Guo, 2023; Rolbiecki, 2024).

Scaling digital narrative pedagogy requires institutional infrastructure and pedagogical guidelines. Development of standardized narrative design frameworks may assist educators in aligning storytelling elements with curricular goals. Collaborative production models involving students could further enhance participatory learning dynamics. Educational systems entering increasingly digital landscapes must reconsider the role of narrative as foundational rather than peripheral. Podcasts and vlogs represent evolving forms of scholarly discourse and pedagogical expression. Continued exploration may redefine the architecture of teaching in digitally mediated contexts.

## CONCLUSION

The most significant finding of this study lies in the empirical confirmation that podcasts and vlogs, when designed as structured digital narratives rather than supplementary multimedia content, produce substantial improvements in academic achievement, engagement, and higher-order thinking skills. Evidence from statistical analysis, classroom observation, and case study data demonstrates that narrative immersion functions as a mediating mechanism linking multimodal exposure to measurable cognitive gains. The distinctive contribution of this research resides in identifying narrative structure not merely technological integration as the central pedagogical driver of enhanced learning outcomes.

The added value of this study is both conceptual and methodological. Conceptually, it advances the understanding of digital storytelling as a cognitive and affective scaffold within formal instructional contexts, extending beyond general multimedia learning theory. Methodologically, the integration of experimental design, inferential statistics, learning analytics, and qualitative case analysis provides a robust triangulated framework for examining digital pedagogy. This comprehensive mixed-methods approach strengthens the evidentiary base for narrative-centered instructional innovation.

Several limitations warrant consideration and inform future research directions. The study was conducted within a single institutional context and limited disciplinary scope, potentially constraining generalizability across diverse educational settings. The intervention duration was relatively short, preventing long-term retention analysis. Future investigations should adopt longitudinal and cross-disciplinary designs, explore culturally responsive narrative adaptations, and examine the scalability of digital narrative frameworks within broader curricular systems.

## DECLARATION OF AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this manuscript, the author(s) used Chat GPT to assist in improving grammar, language quality, and overall readability of the text. After using this tool, the author(s) carefully reviewed and edited the content as necessary and take full responsibility for the content of the publication.

## AUTHORS' CONTRIBUTION

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; Investigation.

Author 3: Data curation; Investigation.

## DECLARATION OF COMPETING INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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